TECHNICAL REPORT
72-45-CE

CRIMP AND THICKNESS RELATIONSHIPS IN MAXIMUM WEAVABLE FABRICS

by

Louis I. Weiner

March 1972

UNITED STATES ARMY
NATICK LABORATORIES
NATICK, MASSACHUSETTS 01760

Clothing & Personal Life Support
Equipment Laboratory
TS-102

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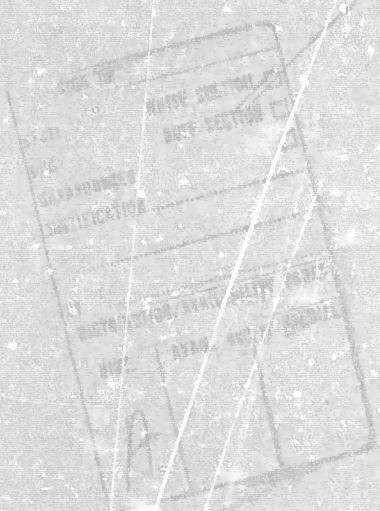

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Derivation of the basic equations and computer solution and tabling of values of overall crimp and cover factor in terms of displacement ratio (h/D) and spacing ratio (p/D) are provided for maximum weavable constructions in plain, three-, four-, and five-harness weaves and for yarn balance (Beta) values ranging from 0.5 to 2.0.

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FOREWORD

This report of work conducted under Project Reference 1T062105A329, presents the derivation of the equations relating fabric displacement ratio and spacing ratio to overall crimp for maximum weavable fabrics and contains tabulations of the solutions of these equations for the plain, three-, four-, and five-harness weaves and for a wide spectrum of yarn balance (Beta) values.

To the fabric designer these tables will be valuable in permitting estimates to be made of fabric thickness and crown height from loom design considerations. To the fabric analyst the tables provide a readily available source of the values of the geometric parameters which characterize maximum weavable constructions of the various weave types.

The computer solution and tabling of the crimp equations were suggested to the author by the late Louis Love of the Army Defense Personnel Support Center. The support of this effort by Dr. J. Fred Oesterling, Deputy Scientific Director for Research and Dr. Stephen J. Kennedy, Director of the Clothing and Personal Life Support Equipment Laboratory of the U. S. Army Natick Laboratories is appreciated.

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ABSTRACT

Derivation of the basic equations and computer solution and tabling of values of overall crimp and cover factor in terms of displacement ratio (h/D) and spacing ratio (p/D) are provided for maximum weavable constructions in plain, three-, four-, and five-harness weaves and for yarn balance (Beta) values ranging from 0.5 to 2.0.

CRIMP AND THICKNESS RELATIONSHIPS IN MAXIMUM WEAVABLE FABRICS

Introduction

Aside from stress-strain considerations, the textile designer is most often concerned with weight and tightness relationships in woven fabrics. Weight is important from the standpoint of economics and to provide a base line from which to assess physical and mechanical properties. Tightness is necessary to achieve certain specialized functional properties such as wind and water resistance, ballistic resistance, and general fabric stability.

Another area of significance is that of fabric thickness. Thickness determines the rate of heat transfer through a fabric; its moisture vapor permeability; and toxic vapor permeability. In addition, fabric thickness is a function of the yarn crimp, and the latter is a significant factor in tear strength and abrasion resistance.

A significant simplification in the procedure for designing fabrics of maximum tightness was outlined in a Textile Fabric Design Handbook[1] published in 1970. This Handbook presented in tabular form the solutions of the maximum weavability equations for the plain, oxford, 3-, and 4-harness twills, 5-harness sateen in terms of warp and filling cover factors and yarn number ratio (Beta) for fabrics made from any fiber species and from blends. For all practical purposes the tables provide all the necessary information needed by the designer of textile fabrics to produce reasonable designs of compact textile fabrics or fabrics woven to a certain percentage of maximum compactness. These tables therefore satisfy the need for design information for maximum weavable fabrics for wind and water resistant applications and many other applications of interest to the military.

The purpose of this study is to supplement the Handbook tables by another set of tables which furnish information on crimp and thickness parameters of maximum weavable fabrics. Where it is desired to design to a certain fabric thickness the crimp corresponding to the displacement ratio (h/D) and the spacing ratio (p/D) for each yarn system may be predicted from the basic equations of Peirce[2] as modified by Love[3] and then the cover factor corresponding to the required p/D and yarn balance ratio (B) may be obtained from the supplementary tables.

The development of these tables completes the procedure for designing maximum weavable fabrics in terms of three essential characteristics:

1 - Weight - utilizing conventional design techniques.

2 - Cover and tightness - utilizing the tables in reference 1.

3 - Crimp and thickness - utilizing the tables prepared in this study.

Much of the geometry required for the derivation of the equations which will be used in this study has been described previously.[1,3] However, there are certain elements of the geometry which are critical to the understanding of the crimp and thickness interactions, so that a certain amount of repetition will be made for the sake of clarity.

Geometric Considerations

In approaching the development of the equations for maximum weavable fabrics made from the basic weave types, a logical point to begin is the plain weave, the geometry of which was brilliantly worked out by Peirce[2] in 1937. The work done in this country subsequent to Peirce's analysis has been concerned with the extension of his basic equations for the plain weave to the other weave types - particularly in the maximum weavable construction. In addition, Love[3] extended the basic relationship between yarn displacement (h/D) and the yarn spacing (p/D) to the other weave types.

The ability to design fabrics of a given thickness stems from the relationships evolved by Peirce showing that the sum of the yarn displacement (h) and the yarn diameter (d) provides the thickness of the fabric, within the framework of error based on the assumptions that are made. Thus, the thickness of the fabric may be obtained from the equations:

$$G = h_1 + d_1 \qquad (1)$$

or

$$G = h_2 + d_2 \qquad (2)$$

whichever has the greater value. Assuming $(h_1 + d_1) > (h_2 + d_2)$, then it also may be said that the projection of the warp yarn crowns above the filling yarn crowns is equal to $(h_1 + d_1) - (h_2 + d_2)$. The reverse relationship applies when the filling yarn crowns project above the warp yarn crowns. The basis for the thickness and crown projection formulas is apparent from examination of Figure 1 below:

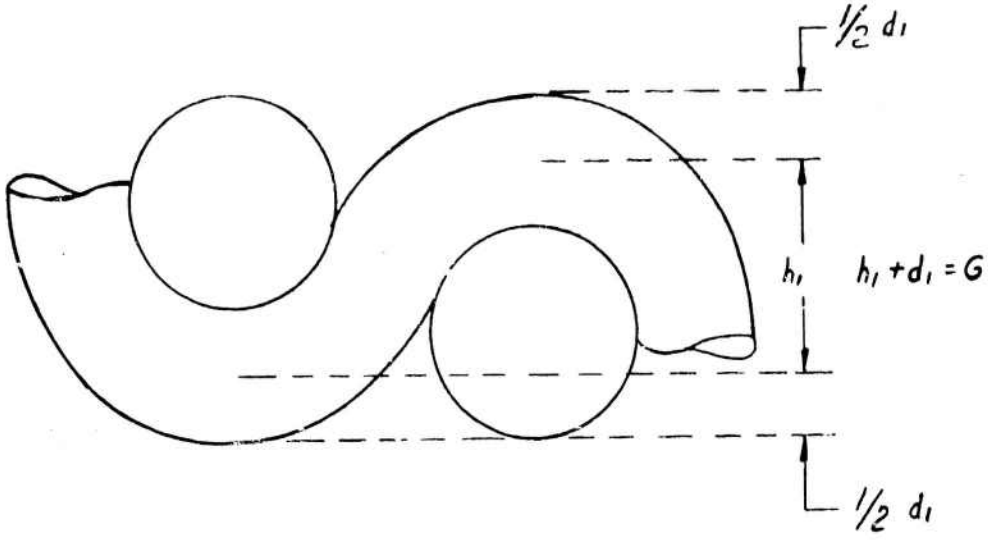

Figure 1 - Thickness - Displacement Relationship

In using the h + d relationship to obtain an approximation of fabric thickness it is necessary to have an indication of the magnitude of these two parameters. The magnitude of d may be obtained with a suitable degree of precision from the equation:

$$\text{yarn diameter (in inches)} = \frac{.0342}{\sqrt{N D}} \qquad (3)$$

where: .0342 is a factor applicable only to the cotton system of numbering yarns

N is the yarn number expressed in the cotton system

D is the density of the yarn expressed in gm/cm^3

Since Peirce assumed a density of 0.909 for a cotton yarn in a maximum weavable fabric construction, the above equation may be simplified for the case of cotton yarns numbered in the cotton system as follows:

$$\text{yarn diameter (inches)} = \frac{.0359}{\sqrt{N}} \qquad (4)$$

Thus for maximum weavable fabrics a good approximation of the diameter of the yarn expressed in inches may be obtained if the yarn number is known.

Once the value of d is known then the required value of h may be obtained by subtracting d from the desired value of fabric thickness. The balance of the design problem then revolves around the method of obtaining this value of displacement (h) in the fabric.

The displacement of the yarns in a fabric is a function of crimp, and for given yarn sizes it is possible to modify the crimp so that the desired value of displacement may be obtained. First, let us consider the relationship between crimp and other geometric fabric parameters in maximum weavable plain weave fabrics.

Derivation of Crimp Relationships in Maximum Weavable Plain Weave Fabrics

Consider a cross section of the unit cell across the filling yarns in a maximum weavable plain weave. Note that since there is no straight portion to the warp yarn, the configuration of the unit cell will appear as in Figure 2 below:

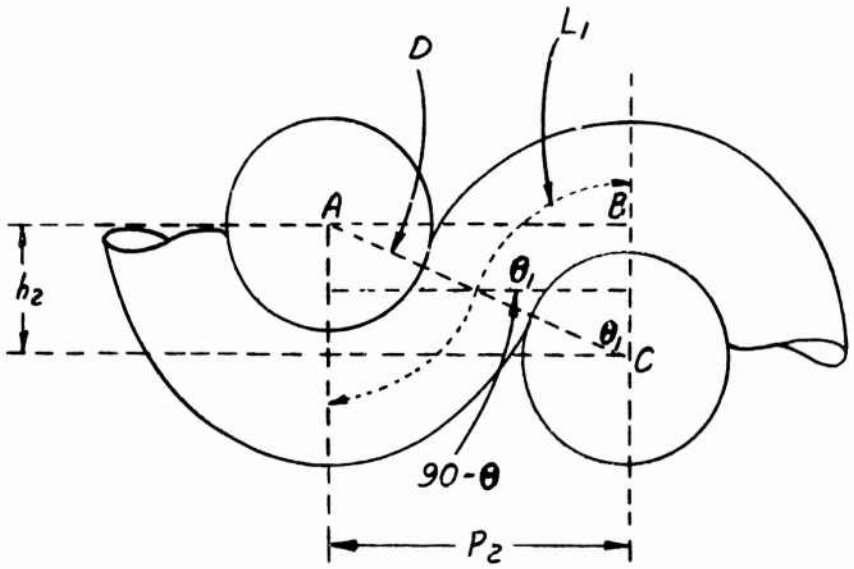

Figure 2 - Crimp Relationships in Plain Weave

p_2 is the spacing of the filling yarns

θ_1 is the angle of inclination of the warp yarn to the plane of the fabric

D is the sum of the diameters of the warp and filling yarns = AC

h_2 is the displacement of the filling yarns

In the above illustration, fractional warp crimp may be defined as:

$$c_1 = \frac{L_1 - p_2}{p_2}; \text{ the corresponding filling crimp is } c_2 = \frac{L_2 - p_1}{p_1} \quad (5)$$

These equations may be expressed as:

$$c_1 = \frac{L_1}{p_2} - 1 \qquad \text{and} \qquad c_2 = \frac{L_2}{p_1} - 1 \quad (6)$$

We may normalize these equations in terms of the diameter sum D by dividing the top and bottom of the L/p ratio by D thus:

$$c_1 = \frac{L_1/D}{p_2/D} - 1 \qquad \text{and} \qquad c_2 = \frac{L_2/D}{p_1/D} - 1 \quad (7)$$

From Figure 2 above, it may be seen that the angle of inclination θ_1 is identical to the angle formed by the sum of the yarn diameters "D" and the vertical construction line drawn through the center of the filling yarn on the right.

The sine of this angle θ_1 is identically equal to p_2/D

In addition, it may be seen that the value of this angle θ_1, expressed in radians, is equal to $\frac{1}{2}L_1/\frac{1}{2}D$ or to L_1/D. Thus the crimp values for the warp and filling directions of maximum weavable plain weave fabrics are as follows:

$$c_1 = \frac{\theta_1 \text{ radians}}{\sin \theta_1} - 1 \qquad \text{and} \qquad c_2 = \frac{\theta_2 \text{ radians}}{\sin \theta_2} \quad (8)$$

Also from Figure 2 it may be noted that:

$$h_2/D = \cos \theta_1 \text{ and correspondingly} \tag{9}$$

$$h_1/D = \cos \theta_2 \tag{10}$$

Since $\sin \theta_1$ runs from zero to a maximum of one, and since $\sin \theta_1 = p_2/D$; we can construct a table of values of p_2/D running from 0 to 1 in intervals of .1 and determine the corresponding value of h_2/D as the cosine of the angle; L_1/D as the angle itself expressed in radians; and finally compute the value of c_1 as shown in equation (8) above.

The significant feature of such a table is that for a given p/D we can adjust crimp, by proper manipulation on the loom, so that a given L/D may be obtained. The h/D value controls the thickness of the fabric; since the thickness of the fabric must be either $h_1 + d_1$ or $h_2 + d_2$, whichever is greater.

Of more interest, is presenting h/D as the independent variable since this is the parameter which must be determined to provide the necessary crimp and spacing. This has been done using an appropriate computer program, and is included as the first 3 columns of the crimp tables. A portion of the print-out of warp crimp and displacement which includes the L_1/D ratio also, is shown in Table I.

TABLE I

WARP CRIMP AND FILLING YARN SPACING IN TERMS OF YARN DISPLACEMENT FOR MAXIMUM WEAVABLE PLAIN WEAVE FABRICS

WARP DISPLACEMENT* (h_1/D)	WARP CRIMP (c_1)	FILLING SPACING (p_2/D)	WARP YARN LENGTH (L_1/D)
0.0	.0000	.0000	.0000
0.1	.0347	.4359	.4510
0.2	.0725	.6000	.6435
0.3	.1138	.7141	.7954
0.4	.1591	.8000	.9273
0.5	.2092	.8660	1.0472
0.6	.2649	.9165	1.1593
0.7	.3272	.9539	1.2661
0.8	.3977	.9798	1.3694
0.9	.4780	.9950	1.4706
1.0	.5708	1.0000	1.5708

* Normalized

The above table and relationships apply to the plain weave only. In the longer float weaves, straight portions of the interlacing yarns "float" over two or more orthogonal yarns. Thus the overall crimp in the twill and satin weaves will be less than the local crimp at a yarn interlacing. However, the local crimp in these longer float weaves will be the same as that in the plain weave. In addition, the relationship between h/D and p/D for the longer float weaves will be different from that of the plain weave. As shown below, the overall crimp of these longer float weaves is a function of the local crimp, the p/D ratio and the yarn balance (B).

The equation for overall crimp for the warp of a 2/1 twill may be derived as follows:

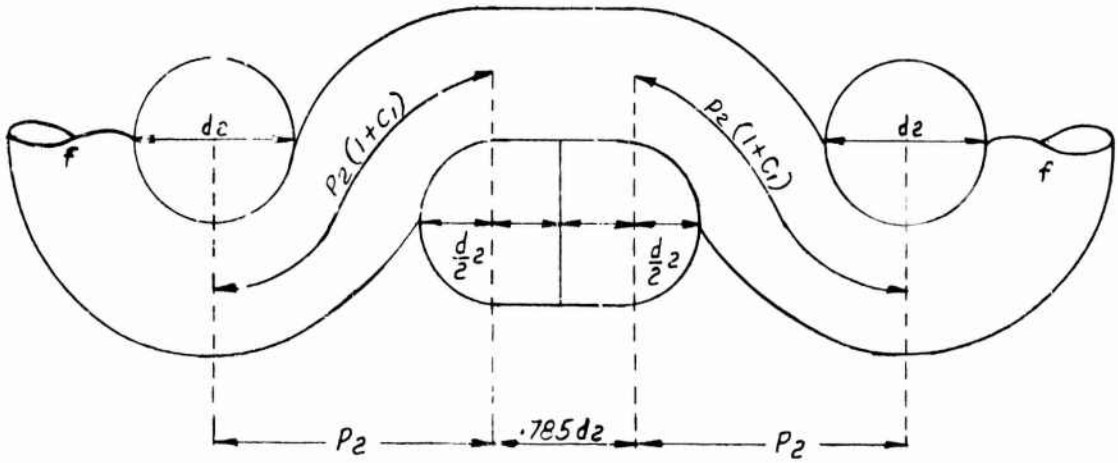

Figure 3 - Overall Warp Crimp Relationships in 3-Harness (2/1) Twill

A repeat of weave in the 2/1 twill consists of 3 yarns. In Figure 3 above, the repeat may be visualized as the distance between the centers of the two yarns whose diameters are labelled "d_2". Each half of these two yarns plus the two yarns under the float make a total of three yarns. Utilizing the assumption of Love (3) for a maximum weavable twill weave that "complete flattening takes place in that half of the yarn which contacts a neighboring yarn under a single float" without altering the fiber packing density, we may compute the average yarn diameter as follows:

The vertical dimension of the compressed half of the yarn remains the same, whereas the horizontal dimension is decreased. But since the packing density remains the same, the volume of the half yarn must remain constant. Considering the two compressed half yarns, if we assume that the combined volume is equal to the volume of one uncompressed yarn, we can show that the width of the compressed yarns = $0.785d_2$.

The length of the warp yarn as it lies in the fabric is composed of this straight length ($.785d_2$) and two curved lengths corresponding to the local bending of the warp yarn as it interlaces the filling yarn. If we designate this length as L_1 and the filling spacing by p_2 then from the definition of local crimp we have:

$$c_1 = \frac{L_1 - p_2}{p_2} \tag{11}$$

solving for L_1 we obtain

$$L_1 = p_2 (1 + c_1) \tag{12}$$

We have a basis for computing the overall crimp since we now have an expression for the actual length of the yarn as it exists in the fabric and the projected length of the yarn. Thus:

$$\text{Actual length} = 2p_2 (1 + c_1) + .785d_2 \tag{13}$$

$$\text{Projected length} = 2p_2 + .785d_2 \tag{14}$$

and from the definition of overall crimp for the entire weave we obtain:

$$C_1 = \frac{2p_2c_1}{2p_2 + .785d_2} \tag{15}$$

Substituting B (Beta) for d_2/d_1 and normalizing in terms of D yields the equation for overall crimp:

$$C_1 = \frac{2\,(p_2/D)c_1}{2(p_2/D) + [.785\ B/(1 + B)]} \qquad (16)$$

By analogy, for a 2/1 twill the filling crimp is:

$$C_2 = \frac{2\,(p_1/D)\,c_2}{2(p_1/D) + [.785/(1 + B)]} \qquad (17)$$

In a similar fashion the overall crimp for the 4- and 5-harness weaves may be computed - the final equations are as follows:

4 Harness Weave

$$\text{Overall Warp Crimp} = \frac{(p_2/D)\ c_1}{(p_2/D) + (0.785\ B/(1 + B))}$$

$$\text{Overall Filling Crimp} = \frac{(p_1/D)\ c_2}{(p_1/D) + (0.785/(1 + B))}$$

5 Harness Weave

$$\text{Overall Warp Crimp} = \frac{2(p_2/D)\ c_1}{2(p_2/D) + (2.355\ B/(1 + B))}$$

$$\text{Overall Filling Crimp} = \frac{2(p_1/D)\ c_2}{2(p_1/D) + (2.355/(1 + B))}$$

To complete the design of the fabric, after obtaining the overall crimp required to give the necessary displacement and thickness, the standard equations for cover factor in terms of the spacing p/D and Beta may be used to provide an indication of the cover factor equivalent of these two parameters. These equations for the different weave types are:

Plain

$$K_1 = \frac{28}{p_1/D(1 + B)}$$

$$K_2 = \frac{28B}{p_2/D(1 + B)}$$

3-Harness

$$K_1 = \frac{30.2}{\left[\frac{(p_1/D(1.08\ (1 + B)) - 1.08}{1.5}\right] + 1}$$

$$K_2 = \frac{30.2B}{\left[\frac{(p_2/D(1.08\ (1 + B)) - 1.08B}{1.5}\right] + B}$$

4-Harness

$$K_1 = \frac{31.4}{\left[\frac{(p_1/D(1.12\ (1 + B)) - 1.12}{2.0}\right] + 1}$$

$$K_2 = \frac{31.4B}{\left[\frac{(p_2/D(1.12\ (1 + B)) - 1.12B)}{2.0}\right] + B}$$

5-Harness

$$K_1 = \frac{32.2}{\left[\frac{(p_1/D(1.15\ (1 + B)) - 1.15}{2.5}\right] + 1}$$

$$K_2 = \frac{32.2B}{\left[\frac{(p_2/D(1.15\ (1 + B)) - 1.15B)}{2.5}\right] + B}$$

For each entry of h/D, c, and p/D in the tables, there are two rows of data given. The first row provides the values of overall crimp for each Beta value for the given weave and the second row of values provides the corresponding cover factors. It should be noted that when the overall crimp values are for the warp system, the cover factors will be for the filling system and vice versa. In the case of the plain weave, the overall crimp is identical to the local crimp.

Illustrative Example

An illustration of the use of the tables is given below:

Consider the case of a three-harness fabric woven to maximum weavability with nominal 11s yarns in the warp and 9s in the filling. What combination of warp and filling crimp will lead to an overall thickness of 0.025 inches with the warp crowns projecting above the filling?

The predicted thickness from warp data would be $h_1 + d_1$ and for filling data $h_2 + d_2$. The diameter (d) for cotton yarns is $.0359/\sqrt{N}$. Therefore, $d_1 = 0.011$ inches and $d_2 = 0.012$ inches. $D = 0.023$ inches and Beta = 1.1. For the warp system in order to obtain a thickness of 0.025 inches:

$$h_1 = 0.025 - 0.011 = 0.014$$

$$\text{and } h_1 D = 0.61$$

Entering the table for the three-harness weave at a Beta value of 1.1 and h_1/D of 0.61* yields a warp crimp of .221 or 22.1%.

For the filling system:

$$h_2 = 0.025 - 0.012 = 0.013$$

$$\text{and } h_2/D = 0.56$$

Entering the table for the three-harness weave at a Beta value of 1.1 and h_2/D of 0.56 yields a filling crimp value of 0.200 or 20%.

For the warp yarn crowns to project above the filling yarns the loom take-up would be set to produce a crimp of 22.1%. The filling crimp would then assume a value according to the solution of the equation:

$$h_1/D + h_2/D = 1$$

$$h_2/D = 1 - 0.61 = 0.39$$

which from the tables* corresponds to a filling crimp of .125 or 12.5%.

*interpolate linearly

A 2/1 left twill woven to maximum tightness with a texture of 87.5 x 56.2 and actual yarn numbers of 10.9 by 8.8 was found to have measured crimps of 24.6% x 8.8% which correspond to the predicted 22.1% x 12.5%, and a measured thickness of 0.0256 inches which corresponds to the thickness of 0.025 inches assumed in the problem. If the design goal had been set at 0.026 inches, the predicted crimps would be 24.2% x 10.9% compared to the actual of 24.6% x 8.8%.

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TABLE II

VALUES OF OVERALL FILLING CRIMP AND WARP COVER FACTOR FOR MAXIMUM WEAVABLE FABRICS HAVING SPECIFIED FILLING DISPLACEMENT, WARP SPACING, AND LOCAL FILLING CRIMP

PLAIN WEAVES

3-HARNESS WEAVES

4-HARNESS WEAVES

5-HARNESS WEAVES

TABLE OF VALUES OF OVERALL FILLING CRIMP AND WARP COVER FACTOR
FOR MAXIMUM WEAVABLE FABRICS HAVING SPECIFIED FILLING DISPLACEMENT
WARP SPACING AND LOCAL FILLING CRIMP

(PLAIN WEAVES)

H2/D	C2	P1/D	BETA .5	.6	.7	.8	.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
.02	.007	.199	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007
			93.8	87.9	82.8	78.2	74.1	70.4	67.0	64.0	61.2	58.6	56.3	54.1	52.1	50.3	48.5	46.9
.04	.014	.280	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014
			66.7	62.5	58.8	55.6	52.6	50.0	47.6	45.5	43.5	41.7	40.0	38.5	37.0	35.7	34.5	33.3
.06	.020	.341	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020
			54.7	51.3	48.3	45.6	43.2	41.0	39.1	37.3	35.7	34.2	32.8	31.6	30.4	29.3	28.3	27.4
.08	.028	.392	.028	.028	.028	.028	.028	.028	.028	.028	.028	.028	.028	.028	.028	.028	.028	.028
			47.6	44.7	42.0	39.7	37.6	35.7	34.0	32.5	31.1	29.8	28.6	27.5	26.5	25.5	24.6	23.8
.10	.035	.436	.035	.035	.035	.035	.035	.035	.035	.035	.035	.035	.035	.035	.035	.035	.035	.035
			42.8	40.1	37.8	35.7	33.8	32.1	30.6	29.2	27.9	26.8	25.7	24.7	23.8	22.9	22.2	21.4
.12	.042	.475	.042	.042	.042	.042	.042	.042	.042	.042	.042	.042	.042	.042	.042	.042	.042	.042
			39.3	36.8	34.7	32.8	31.0	29.5	28.1	26.8	25.6	24.6	23.6	22.7	21.8	21.1	20.3	19.7
.14	.049	.510	.049	.049	.049	.049	.049	.049	.049	.049	.049	.049	.049	.049	.049	.049	.049	.049
			36.6	34.3	32.3	30.5	28.9	27.4	26.1	24.9	23.9	22.9	21.9	21.1	20.3	19.6	18.9	18.3
.16	.057	.543	.057	.057	.057	.057	.057	.057	.057	.057	.057	.057	.057	.057	.057	.057	.057	.057
			34.4	32.3	30.4	28.7	27.2	25.8	24.6	23.5	22.4	21.5	20.6	19.8	19.1	18.4	17.8	17.2
.18	.065	.572	.065	.065	.065	.065	.065	.065	.065	.065	.065	.065	.065	.065	.065	.065	.065	.065
			32.6	30.6	28.8	27.2	25.7	24.5	23.3	22.2	21.3	20.4	19.6	18.8	18.1	17.5	16.9	16.3
.20	.073	.600	.073	.073	.073	.073	.073	.073	.073	.073	.073	.073	.073	.073	.073	.073	.073	.073
			31.1	29.2	27.5	25.9	24.6	23.3	22.2	21.2	20.3	19.4	18.7	17.9	17.3	16.7	16.1	15.6
.22	.080	.626	.080	.080	.080	.080	.080	.080	.080	.080	.080	.080	.080	.080	.080	.080	.080	.080
			29.8	28.0	26.3	24.9	23.5	22.4	21.3	20.3	19.5	18.6	17.9	17.2	16.6	16.0	15.4	14.9
.24	.089	.650	.089	.089	.089	.089	.089	.089	.089	.089	.089	.089	.089	.089	.089	.089	.089	.089
			28.7	26.9	25.3	23.9	22.7	21.5	20.5	19.6	18.7	18.0	17.2	16.6	16.0	15.4	14.9	14.4
.26	.097	.673	.097	.097	.097	.097	.097	.097	.097	.097	.097	.097	.097	.097	.097	.097	.097	.097
			27.8	26.0	24.5	23.1	21.9	20.8	19.8	18.9	18.1	17.3	16.7	16.0	15.4	14.9	14.4	13.9

H/D=NORMALIZED DISPLACEMENT, C=LOCAL CRIMP, P/D=NORMALIZED SPACING
ALTERNATE ROWS OF TABLE - FIRST LINE=OVERALL CRIMP, SECOND LINE=COVER FACTOR
FOR THE PLAIN WEAVE, LOCAL CRIMP=OVERALL CRIMP

TABLE OF VALUES OF OVERALL FILLING CRIMP AND WARP COVER FACTOR
FOR MAXIMUM WEAVABLE FABRICS HAVING SPECIFIED FILLING DISPLACEMENT
WARP SPACING AND LOCAL FILLING CRIMP

(PLAIN WEAVES)

H2/D	C2	P1/D	BETA .5	.6	.7	.8	.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
.28	.105	.694	.105	.105	.105	.105	.105	.105	.105	.105	.105	.105	.105	.105	.105	.105	.105	.105
			26.9	25.2	23.7	22.4	21.2	20.2	19.2	18.3	17.5	16.8	16.1	15.5	14.9	14.4	13.9	13.4
.30	.114	.714	.114	.114	.114	.114	.114	.114	.114	.114	.114	.114	.114	.114	.114	.114	.114	.114
			26.1	24.5	23.1	21.8	20.6	19.6	18.7	17.8	17.0	16.3	15.7	15.1	14.5	14.0	13.5	13.1
.32	.123	.733	.123	.123	.123	.123	.123	.123	.123	.123	.123	.123	.123	.123	.123	.123	.123	.123
			25.5	23.9	22.5	21.2	20.1	19.1	18.2	17.4	16.6	15.9	15.3	14.7	14.1	13.6	13.2	12.7
.34	.131	.751	.131	.131	.131	.131	.131	.131	.131	.131	.131	.131	.131	.131	.131	.131	.131	.131
			24.8	23.3	21.9	20.7	19.6	18.6	17.7	16.9	16.2	15.5	14.9	14.3	13.8	13.3	12.9	12.4
.36	.140	.768	.140	.140	.140	.140	.140	.140	.140	.140	.140	.140	.140	.140	.140	.140	.140	.140
			24.3	22.8	21.4	20.2	19.2	18.2	17.4	16.6	15.8	15.2	14.6	14.0	13.5	13.0	12.6	12.1
.38	.150	.785	.150	.150	.150	.150	.150	.150	.150	.150	.150	.150	.150	.150	.150	.150	.150	.150
			23.8	22.3	21.0	19.8	18.8	17.8	17.0	16.2	15.5	14.9	14.3	13.7	13.2	12.7	12.3	11.9
.40	.159	.800	.159	.159	.159	.159	.159	.159	.159	.159	.159	.159	.159	.159	.159	.159	.159	.159
			23.3	21.9	20.6	19.4	18.4	17.5	16.7	15.9	15.2	14.6	14.0	13.5	13.0	12.5	12.1	11.7
.42	.169	.815	.169	.169	.169	.169	.169	.169	.169	.169	.169	.169	.169	.169	.169	.169	.169	.169
			22.9	21.5	20.2	19.1	18.1	17.2	16.4	15.6	14.9	14.3	13.7	13.2	12.7	12.3	11.9	11.5
.44	.179	.828	.179	.179	.179	.179	.179	.179	.179	.179	.179	.179	.179	.179	.179	.179	.179	.179
			22.5	21.1	19.9	18.8	17.8	16.9	16.1	15.4	14.7	14.1	13.5	13.0	12.5	12.1	11.7	11.3
.46	.189	.842	.189	.189	.189	.189	.189	.189	.189	.189	.189	.189	.189	.189	.189	.189	.189	.189
			22.2	20.8	19.6	18.5	17.5	16.6	15.8	15.1	14.5	13.9	13.3	12.8	12.3	11.9	11.5	11.1
.48	.199	.854	.199	.199	.199	.199	.199	.199	.199	.199	.199	.199	.199	.199	.199	.199	.199	.199
			21.9	20.5	19.3	18.2	17.3	16.4	15.6	14.9	14.3	13.7	13.1	12.6	12.1	11.7	11.3	10.9
.50	.209	.866	.209	.209	.209	.209	.209	.209	.209	.209	.209	.209	.209	.209	.209	.209	.209	.209
			21.6	20.2	19.0	18.0	17.0	16.2	15.4	14.7	14.1	13.5	12.9	12.4	12.0	11.5	11.1	10.8
.52	.220	.877	.220	.220	.220	.220	.220	.220	.220	.220	.220	.220	.220	.220	.220	.220	.220	.220
			21.3	19.9	18.8	17.7	16.8	16.0	15.2	14.5	13.9	13.3	12.8	12.3	11.8	11.4	11.0	10.6

H/D=NORMALIZED DISPLACEMENT, C=LOCAL CRIMP, P/D=NORMALIZED SPACING
ALTERNATE ROWS OF TABLE - FIRST LINE=OVERALL CRIMP, SECOND LINE=COVER FACTOR
FOR THE PLAIN WEAVE, LOCAL CRIMP=OVERALL CRIMP

TABLE OF VALUES OF OVERALL FILLING CRIMP AND WARP COVER FACTOR
FOR MAXIMUM WEAVABLE FABRICS HAVING SPECIFIED FILLING DISPLACEMENT
WARP SPACING AND LOCAL FILLING CRIMP

(PLAIN WEAVES)

H2/D	C2	P1/D	BETA .5	.6	.7	.8	.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
.54	.231	.888	.231	.231	.231	.231	.231	.231	.231	.231	.231	.231	.231	.231	.231	.231	.231	.231
			21.0	19.7	18.5	17.5	16.6	15.8	15.0	14.3	13.7	13.1	12.6	12.1	11.7	11.3	10.9	10.5
.56	.242	.898	.242	.242	.242	.242	.242	.242	.242	.242	.242	.242	.242	.242	.242	.242	.242	.242
			20.8	19.5	18.3	17.3	16.4	15.6	14.8	14.2	13.6	13.0	12.5	12.0	11.5	11.1	10.8	10.4
.58	.253	.908	.253	.253	.253	.253	.253	.253	.253	.253	.253	.253	.253	.253	.253	.253	.253	.253
			20.6	19.3	18.1	17.1	16.2	15.4	14.7	14.0	13.4	12.9	12.3	11.9	11.4	11.0	10.6	10.3
.60	.265	.917	.265	.265	.265	.265	.265	.265	.265	.265	.265	.265	.265	.265	.265	.265	.265	.265
			20.4	19.1	18.0	17.0	16.1	15.3	14.5	13.9	13.3	12.7	12.2	11.8	11.3	10.9	10.5	10.2
.62	.277	.925	.277	.277	.277	.277	.277	.277	.277	.277	.277	.277	.277	.277	.277	.277	.277	.277
			20.2	18.9	17.8	16.8	15.9	15.1	14.4	13.8	13.2	12.6	12.1	11.6	11.2	10.8	10.4	10.1
.64	.289	.933	.289	.289	.289	.289	.289	.289	.289	.289	.289	.289	.289	.289	.289	.289	.289	.289
			20.0	18.8	17.7	16.7	15.8	15.0	14.3	13.6	13.0	12.5	12.0	11.5	11.1	10.7	10.3	10.0
.66	.301	.940	.301	.301	.301	.301	.301	.301	.301	.301	.301	.301	.301	.301	.301	.301	.301	.301
			19.8	18.6	17.5	16.5	15.7	14.9	14.2	13.5	12.9	12.4	11.9	11.5	11.0	10.6	10.3	9.9
.68	.314	.947	.314	.314	.314	.314	.314	.314	.314	.314	.314	.314	.314	.314	.314	.314	.314	.314
			19.7	18.5	17.4	16.4	15.6	14.8	14.1	13.4	12.8	12.3	11.8	11.4	10.9	10.6	10.2	9.9
.70	.327	.954	.327	.327	.327	.327	.327	.327	.327	.327	.327	.327	.327	.327	.327	.327	.327	.327
			19.6	18.3	17.3	16.3	15.4	14.7	14.0	13.3	12.8	12.2	11.7	11.3	10.9	10.5	10.1	9.8
.72	.341	.960	.341	.341	.341	.341	.341	.341	.341	.341	.341	.341	.341	.341	.341	.341	.341	.341
			19.4	18.2	17.2	16.2	15.4	14.6	13.9	13.3	12.7	12.2	11.7	11.2	10.8	10.4	10.1	9.7
.74	.354	.966	.354	.354	.354	.354	.354	.354	.354	.354	.354	.354	.354	.354	.354	.354	.354	.354
			19.3	18.1	17.1	16.1	15.3	14.5	13.8	13.2	12.6	12.1	11.6	11.2	10.7	10.4	10.0	9.7
.76	.368	.971	.368	.368	.368	.368	.368	.368	.368	.368	.368	.368	.368	.368	.368	.368	.368	.368
			19.2	18.0	17.0	16.0	15.2	14.4	13.7	13.1	12.5	12.0	11.5	11.1	10.7	10.3	9.9	9.6
.78	.383	.975	.383	.383	.383	.383	.383	.383	.383	.383	.383	.383	.383	.383	.383	.383	.383	.383
			19.1	17.9	16.9	15.9	15.1	14.4	13.7	13.0	12.5	12.0	11.5	11.0	10.6	10.3	9.9	9.6

H/D=NORMALIZED DISPLACEMENT, C=LOCAL CRIMP, P/D=NORMALIZED SPACING
ALTERNATE ROWS OF TABLE - FIRST LINE=OVERALL CRIMP, SECOND LINE=COVER FACTOR
FOR THE PLAIN WEAVE, LOCAL CRIMP=OVERALL CRIMP

TABLE OF VALUES OF OVERALL FILLING CRIMP AND WARP COVER FACTOR
FOR MAXIMUM WEAVABLE FABRICS HAVING SPECIFIED FILLING DISPLACEMENT
WARP SPACING AND LOCAL FILLING CRIMP

(PLAIN WEAVES)

			BETA														
H2/D	C2	P1/D	.5	.6	.7	.8	.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
.80	.398	.980	.398	.398	.398	.398	.398	.398	.398	.398	.398	.398	.398	.398	.398	.398	.398	.398
			19.1	17.9	16.8	15.9	15.0	14.3	13.6	13.0	12.4	11.9	11.4	11.0	10.6	10.2	9.9	9.5
.82	.413	.984	.413	.413	.413	.413	.413	.413	.413	.413	.413	.413	.413	.413	.413	.413	.413	.413
			19.0	17.8	16.7	15.8	15.0	14.2	13.6	12.9	12.4	11.9	11.4	10.9	10.5	10.2	9.8	9.5
.84	.429	.987	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429
			18.9	17.7	16.7	15.8	14.9	14.2	13.5	12.9	12.3	11.8	11.3	10.9	10.5	10.1	9.8	9.5
.86	.445	.990	.445	.445	.445	.445	.445	.445	.445	.445	.445	.445	.445	.445	.445	.445	.445	.445
			18.9	17.7	16.6	15.7	14.9	14.1	13.5	12.9	12.3	11.8	11.3	10.9	10.5	10.1	9.8	9.4
.88	.461	.993	.461	.461	.461	.461	.461	.461	.461	.461	.461	.461	.461	.461	.461	.461	.461	.461
			18.8	17.6	16.6	15.7	14.8	14.1	13.4	12.8	12.3	11.8	11.3	10.8	10.4	10.1	9.7	9.4
.90	.478	.995	.478	.478	.478	.478	.478	.478	.478	.478	.478	.478	.478	.478	.478	.478	.478	.478
			18.8	17.6	16.6	15.6	14.8	14.1	13.4	12.8	12.2	11.7	11.3	10.8	10.4	10.1	9.7	9.4
.92	.496	.997	.496	.496	.496	.496	.496	.496	.496	.496	.496	.496	.496	.496	.496	.496	.496	.496
			18.7	17.6	16.5	15.6	14.8	14.0	13.4	12.8	12.2	11.7	11.2	10.8	10.4	10.0	9.7	9.4
.94	.513	.998	.513	.513	.513	.513	.513	.513	.513	.513	.513	.513	.513	.513	.513	.513	.513	.513
			18.7	17.5	16.5	15.6	14.8	14.0	13.4	12.8	12.2	11.7	11.2	10.8	10.4	10.0	9.7	9.4
.96	.532	.999	.532	.532	.532	.532	.532	.532	.532	.532	.532	.532	.532	.532	.532	.532	.532	.532
			18.7	17.5	16.5	15.6	14.7	14.0	13.3	12.7	12.2	11.7	11.2	10.8	10.4	10.0	9.7	9.3
.98	.551	1.000	.551	.551	.551	.551	.551	.551	.551	.551	.551	.551	.551	.551	.551	.551	.551	.551
			18.7	17.5	16.5	15.6	14.7	14.0	13.3	12.7	12.2	11.7	11.2	10.8	10.4	10.0	9.7	9.3
1.00	.571	1.000	.571	.571	.571	.571	.571	.571	.571	.571	.571	.571	.571	.571	.571	.571	.571	.571
			18.7	17.5	16.5	15.6	14.7	14.0	13.3	12.7	12.2	11.7	11.2	10.8	10.4	10.0	9.7	9.3

H/D=NORMALIZED DISPLACEMENT, C=LOCAL CRIMP, P/D=NORMALIZED SPACING
ALTERNATE ROWS OF TABLE - FIRST LINE=OVERALL CRIMP, SECOND LINE=COVER FACTOR
FOR THE PLAIN WEAVE, LOCAL CRIMP=OVERALL CRIMP

TABLE OF VALUES OF OVERALL FILLING CRIMP AND WARP COVER FACTOR
FOR MAXIMUM WEAVABLE FABRICS HAVING SPECIFIED FILLING DISPLACEMENT
WARP SPACING AND LOCAL FILLING CRIMP

(3-HARNESS WEAVES)

			BETA															
H2/D	C2	P1/D	.5	.6	.7	.8	.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
.02	.007	.199	.003	.003	.003	.003	.003	.003	.003	.004	.004	.004	.004	.004	.004	.004	.004	.004
			61.0	59.3	57.7	56.1	54.7	53.3	52.0	50.7	49.5	48.4	47.3	46.3	45.3	44.3	43.4	42.5
.04	.014	.280	.007	.007	.007	.008	.008	.008	.008	.008	.008	.009	.009	.009	.009	.009	.009	.009
			51.9	50.1	48.5	47.0	45.5	44.2	42.9	41.7	40.6	39.5	38.5	37.6	36.6	35.8	34.9	34.1
.06	.020	.341	.012	.012	.012	.013	.013	.013	.013	.013	.014	.014	.014	.014	.014	.015	.015	.015
			46.6	44.9	43.3	41.8	40.4	39.2	37.9	36.8	35.7	34.7	33.8	32.9	32.0	31.2	30.4	29.7
.08	.028	.392	.017	.017	.017	.018	.018	.018	.019	.019	.019	.019	.020	.020	.020	.020	.020	.021
			42.9	41.3	39.8	38.3	37.0	35.8	34.6	33.5	32.5	31.5	30.6	29.8	29.0	28.2	27.5	26.8
.10	.035	.436	.022	.022	.023	.023	.024	.024	.024	.025	.025	.025	.026	.026	.026	.026	.026	.027
			40.2	38.6	37.1	35.7	34.5	33.3	32.2	31.1	30.1	29.2	28.4	27.6	26.8	26.1	25.4	24.7
.12	.042	.475	.027	.028	.028	.029	.029	.030	.030	.031	.031	.031	.032	.032	.032	.032	.033	.033
			38.1	36.5	35.1	33.7	32.5	31.3	30.3	29.3	28.3	27.4	26.6	25.8	25.1	24.4	23.7	23.1
.14	.049	.510	.033	.033	.034	.035	.035	.036	.036	.037	.037	.037	.038	.038	.038	.039	.039	.039
			36.3	34.8	33.4	32.1	30.9	29.8	28.7	27.7	26.8	26.0	25.2	24.4	23.7	23.1	22.4	21.8
.16	.057	.543	.038	.039	.040	.041	.041	.042	.042	.043	.043	.044	.044	.045	.045	.045	.046	.046
			34.9	33.4	32.0	30.7	29.5	28.5	27.4	26.5	25.6	24.8	24.0	23.3	22.6	22.0	21.4	20.8
.18	.065	.572	.044	.045	.046	.047	.048	.048	.049	.049	.050	.050	.051	.051	.052	.052	.052	.053
			33.6	32.1	30.8	29.6	28.4	27.4	26.4	25.5	24.6	23.8	23.0	22.3	21.7	21.1	20.5	19.9
.20	.073	.600	.050	.051	.052	.053	.054	.055	.055	.056	.056	.057	.057	.058	.058	.059	.059	.060
			32.5	31.1	29.8	28.6	27.4	26.4	25.4	24.5	23.7	22.9	22.2	21.5	20.9	20.3	19.7	19.2
.22	.080	.626	.057	.058	.059	.060	.060	.061	.062	.063	.063	.064	.064	.065	.065	.066	.066	.067
			31.6	30.2	28.9	27.7	26.6	25.6	24.6	23.8	22.9	22.2	21.5	20.8	20.2	19.6	19.0	18.5
.24	.089	.650	.063	.064	.065	.066	.067	.068	.069	.069	.070	.071	.071	.072	.072	.073	.073	.074
			30.8	29.4	28.1	26.9	25.8	24.8	23.9	23.1	22.3	21.5	20.8	20.2	19.6	19.0	18.4	17.9
.26	.097	.673	.070	.071	.072	.073	.074	.075	.076	.077	.077	.078	.078	.079	.080	.080	.081	.081
			30.0	28.6	27.4	26.2	25.2	24.2	23.3	22.4	21.7	20.9	20.3	19.6	19.0	18.5	17.9	17.4

H/D=NORMALIZED DISPLACEMENT, C=LOCAL CRIMP, P/D=NORMALIZED SPACING
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TABLE OF VALUES OF OVERALL FILLING CRIMP AND WARP COVER FACTOR
FOR MAXIMUM WEAVABLE FABRICS HAVING SPECIFIED FILLING DISPLACEMENT
WARP SPACING AND LOCAL FILLING CRIMP

(3-HARNESS WEAVES)

			BETA														
H2/D	C2	P1/D	.5	.6	.7	.8	.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
.28	.105	.694	.076	.078	.079	.080	.081	.082	.083	.084	.084	.085	.086	.086	.087	.088	.088	.089
			29.3	28.0	26.7	25.6	24.6	23.6	22.7	21.9	21.1	20.4	19.7	19.1	18.5	18.0	17.5	17.0
.30	.114	.714	.083	.085	.086	.087	.088	.089	.090	.091	.092	.093	.093	.094	.095	.095	.096	.096
			28.7	27.4	26.2	25.1	24.0	23.1	22.2	21.4	20.6	19.9	19.3	18.7	18.1	17.6	17.1	16.6
.32	.123	.733	.090	.092	.093	.094	.096	.097	.098	.099	.099	.100	.101	.102	.102	.103	.103	.104
			28.2	26.9	25.6	24.5	23.5	22.6	21.7	21.0	20.2	19.5	18.9	18.3	17.7	17.2	16.7	16.2
.34	.131	.751	.097	.099	.101	.102	.103	.104	.105	.106	.107	.108	.109	.109	.110	.111	.111	.112
			27.7	26.4	25.2	24.1	23.1	22.2	21.3	20.5	19.8	19.1	18.5	17.9	17.4	16.8	16.3	15.9
.36	.140	.768	.105	.106	.108	.109	.111	.112	.113	.114	.115	.116	.117	.117	.118	.119	.119	.120
			27.2	25.9	24.7	23.7	22.7	21.8	20.9	20.2	19.5	18.8	18.2	17.6	17.0	16.5	16.0	15.6
.38	.150	.785	.112	.114	.116	.117	.118	.120	.121	.122	.123	.124	.125	.126	.126	.127	.128	.128
			26.8	25.5	24.3	23.3	22.3	21.4	20.6	19.8	19.1	18.5	17.8	17.3	16.7	16.2	15.7	15.3
.40	.159	.800	.120	.122	.123	.125	.126	.128	.129	.130	.131	.132	.133	.134	.135	.135	.136	.137
			26.4	25.1	24.0	22.9	22.0	21.1	20.3	19.5	18.8	18.2	17.6	17.0	16.5	16.0	15.5	15.0
.42	.169	.815	.128	.130	.131	.133	.135	.136	.137	.138	.140	.141	.141	.142	.143	.144	.145	.145
			26.0	24.8	23.6	22.6	21.7	20.8	20.0	19.2	18.5	17.9	17.3	16.7	16.2	15.7	15.2	14.8
.44	.179	.828	.136	.138	.140	.141	.143	.144	.146	.147	.148	.149	.150	.151	.152	.153	.153	.154
			25.7	24.5	23.3	22.3	21.4	20.5	19.7	19.0	18.3	17.6	17.0	16.5	16.0	15.5	15.0	14.6
.46	.189	.842	.144	.146	.148	.150	.151	.153	.154	.156	.157	.158	.159	.160	.161	.162	.162	.163
			25.4	24.2	23.0	22.0	21.1	20.2	19.5	18.7	18.0	17.4	16.8	16.3	15.8	15.3	14.8	14.4
.48	.199	.854	.152	.154	.156	.158	.160	.162	.163	.164	.166	.167	.168	.169	.170	.171	.172	.172
			25.1	23.9	22.8	21.8	20.8	20.0	19.2	18.5	17.8	17.2	16.6	16.1	15.6	15.1	14.6	14.2
.50	.209	.866	.161	.163	.165	.167	.169	.171	.172	.173	.175	.176	.177	.178	.179	.180	.181	.182
			24.8	23.6	22.5	21.5	20.6	19.8	19.0	18.3	17.6	17.0	16.4	15.9	15.4	14.9	14.5	14.0
.52	.220	.877	.169	.172	.174	.176	.178	.180	.181	.183	.184	.185	.186	.188	.189	.190	.190	.191
			24.6	23.4	22.3	21.3	20.4	19.6	18.8	18.1	17.4	16.8	16.2	15.7	15.2	14.7	14.3	13.9

H/D=NORMALIZED DISPLACEMENT, C=LOCAL CRIMP, P/D=NORMALIZED SPACING
ALTERNATE ROWS OF TABLE - FIRST LINE=OVERALL CRIMP, SECOND LINE=COVER FACTOR

TABLE OF VALUES OF OVERALL FILLING CRIMP AND WARP COVER FACTOR
FOR MAXIMUM WEAVABLE FABRICS HAVING SPECIFIED FILLING DISPLACEMENT
WARP SPACING AND LOCAL FILLING CRIMP

(3-HARNESS WEAVES)

			BETA														
H2/D	C2	P1/D	.5	.6	.7	.8	.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
.54	.231	.888	.178	.181	.183	.185	.187	.189	.191	.192	.194	.195	.196	.197	.198	.199	.200	.201
			24.4	23.2	22.1	21.1	20.2	19.4	18.6	17.9	17.3	16.6	16.1	15.5	15.1	14.6	14.2	13.7
.56	.242	.898	.187	.190	.192	.195	.197	.198	.200	.202	.203	.205	.206	.207	.208	.209	.210	.211
			24.2	23.0	21.9	20.9	20.0	19.2	18.4	17.7	17.1	16.5	15.9	15.4	14.9	14.4	14.0	13.6
.58	.253	.908	.197	.199	.202	.204	.206	.208	.210	.212	.213	.215	.216	.217	.218	.219	.220	.221
			24.0	22.8	21.7	20.7	19.8	19.0	18.3	17.6	16.9	16.3	15.8	15.3	14.8	14.3	13.9	13.5
.60	.265	.917	.206	.209	.212	.214	.216	.218	.220	.222	.223	.225	.226	.227	.229	.230	.231	.232
			23.8	22.6	21.5	20.6	19.7	18.9	18.1	17.4	16.8	16.2	15.6	15.1	14.6	14.2	13.8	13.4
.62	.277	.925	.216	.219	.221	.224	.226	.228	.230	.232	.234	.235	.237	.238	.239	.240	.241	.242
			23.6	22.4	21.4	20.4	19.5	18.7	18.0	17.3	16.7	16.1	15.5	15.0	14.5	14.1	13.7	13.3
.64	.289	.933	.226	.229	.232	.234	.237	.239	.241	.243	.244	.246	.247	.249	.250	.251	.252	.253
			23.5	22.3	21.2	20.3	19.4	18.6	17.9	17.2	16.5	16.0	15.4	14.9	14.4	14.0	13.6	13.2
.66	.301	.940	.236	.239	.242	.245	.247	.249	.251	.253	.255	.257	.258	.260	.261	.262	.263	.265
			23.3	22.2	21.1	20.1	19.3	18.5	17.7	17.1	16.4	15.9	15.3	14.8	14.3	13.9	13.5	13.1
.68	.314	.947	.246	.250	.253	.255	.258	.260	.262	.264	.266	.268	.270	.271	.272	.274	.275	.276
			23.2	22.0	21.0	20.0	19.2	18.4	17.6	17.0	16.3	15.8	15.2	14.7	14.2	13.8	13.4	13.0
.70	.327	.954	.257	.260	.263	.266	.269	.271	.274	.276	.278	.279	.281	.283	.284	.285	.287	.288
			23.0	21.9	20.9	19.9	19.1	18.3	17.5	16.9	16.2	15.7	15.1	14.6	14.1	13.7	13.3	12.9
.72	.341	.960	.268	.271	.275	.278	.280	.283	.285	.287	.289	.291	.293	.294	.296	.297	.299	.300
			22.9	21.8	20.8	19.8	19.0	18.2	17.4	16.8	16.2	15.6	15.0	14.5	14.1	13.6	13.2	12.8
.74	.354	.966	.279	.283	.286	.289	.292	.294	.297	.299	.301	.303	.305	.306	.308	.309	.311	.312
			22.8	21.7	20.7	19.7	18.9	18.1	17.4	16.7	16.1	15.5	15.0	14.5	14.0	13.6	13.2	12.8
.76	.368	.971	.290	.294	.298	.301	.304	.306	.309	.311	.313	.315	.317	.319	.320	.322	.323	.325
			22.7	21.6	20.6	19.6	18.8	18.0	17.3	16.6	16.0	15.4	14.9	14.4	13.9	13.5	13.1	12.7
.78	.383	.975	.302	.306	.310	.313	.316	.319	.321	.324	.326	.328	.330	.332	.333	.335	.336	.338
			22.6	21.5	20.5	19.6	18.7	17.9	17.2	16.5	15.9	15.4	14.8	14.3	13.9	13.4	13.0	12.7

H/D=NORMALIZED DISPLACEMENT, C=LOCAL CRIMP, P/D=NORMALIZED SPACING
ALTERNATE ROWS OF TABLE - FIRST LINE=OVERALL CRIMP, SECOND LINE=COVER FACTOR

TABLE OF VALUES OF OVERALL FILLING CRIMP AND WARP COVER FACTOR
FOR MAXIMUM WEAVABLE FABRICS HAVING SPECIFIED FILLING DISPLACEMENT
WARP SPACING AND LOCAL FILLING CRIMP

(3-HARNESS WEAVES)

			BETA														
H2/D	C2	P1/D	.5	.6	.7	.8	.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
.80	.398	.980	.314	.318	.322	.325	.328	.331	.334	.336	.339	.341	.343	.345	.346	.348	.349	.351
			22.6	21.4	20.4	19.5	18.6	17.9	17.1	16.5	15.9	15.3	14.8	14.3	13.8	13.4	13.0	12.6
.82	.413	.984	.326	.330	.334	.338	.341	.344	.347	.349	.352	.354	.356	.358	.360	.361	.363	.364
			22.5	21.4	20.4	19.4	18.6	17.8	17.1	16.4	15.8	15.3	14.7	14.2	13.8	13.3	12.9	12.6
.84	.429	.987	.339	.343	.347	.351	.354	.357	.360	.363	.365	.368	.370	.372	.374	.375	.377	.378
			22.4	21.3	20.3	19.4	18.5	17.7	17.0	16.4	15.8	15.2	14.7	14.2	13.7	13.3	12.9	12.5
.86	.445	.990	.352	.356	.361	.364	.368	.371	.374	.377	.379	.382	.384	.386	.388	.389	.391	.393
			22.4	21.3	20.2	19.3	18.5	17.7	17.0	16.3	15.7	15.2	14.6	14.2	13.7	13.3	12.9	12.5
.88	.461	.993	.365	.370	.374	.378	.382	.385	.388	.391	.393	.396	.398	.400	.402	.404	.406	.407
			22.3	21.2	20.2	19.3	18.4	17.7	17.0	16.3	15.7	15.1	14.6	14.1	13.7	13.2	12.8	12.5
.90	.478	.995	.378	.383	.388	.392	.396	.399	.402	.405	.408	.411	.413	.415	.417	.419	.421	.422
			22.3	21.2	20.2	19.2	18.4	17.6	16.9	16.3	15.7	15.1	14.6	14.1	13.6	13.2	12.8	12.4
.92	.496	.997	.392	.398	.402	.407	.410	.414	.417	.420	.423	.426	.428	.430	.432	.434	.436	.438
			22.3	21.1	20.1	19.2	18.4	17.6	16.9	16.2	15.6	15.1	14.6	14.1	13.6	13.2	12.8	12.4
.94	.513	.998	.407	.412	.417	.421	.425	.429	.433	.436	.439	.441	.444	.446	.448	.450	.452	.454
			22.2	21.1	20.1	19.2	18.4	17.6	16.9	16.2	15.6	15.1	14.5	14.1	13.6	13.2	12.8	12.4
.96	.532	.999	.422	.427	.432	.437	.441	.445	.448	.451	.454	.457	.460	.462	.464	.467	.469	.470
			22.2	21.1	20.1	19.2	18.3	17.6	16.9	16.2	15.6	15.1	14.5	14.0	13.6	13.2	12.8	12.4
.98	.551	1.000	.437	.443	.448	.452	.457	.461	.464	.468	.471	.474	.476	.479	.481	.483	.485	.487
			22.2	21.1	20.1	19.2	18.3	17.6	16.9	16.2	15.6	15.0	14.5	14.0	13.6	13.2	12.8	12.4
1.00	.571	1.000	.452	.458	.464	.469	.473	.477	.481	.484	.488	.491	.493	.496	.498	.501	.503	.505
			22.2	21.1	20.1	19.2	18.3	17.6	16.9	16.2	15.6	15.0	14.5	14.0	13.6	13.2	12.8	12.4

H/D=NORMALIZED DISPLACEMENT, C=LOCAL CRIMP, P/D=NORMALIZED SPACING
ALTERNATE ROWS OF TABLE - FIRST LINE=OVERALL CRIMP, SECOND LINE=COVER FACTOR

TABLE OF VALUES OF OVERALL FILLING CRIMP AND WARP COVER FACTOR
FOR MAXIMUM WEAVABLE FABRICS HAVING SPECIFIED FILLING DISPLACEMENT
WARP SPACING AND LOCAL FILLING CRIMP

(4-HARNESS WEAVES)

			BETA														
H2/D	C2	P1/D	.5	.6	.7	.8	.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
.02	.007	.199	.002	.002	.002	.002	.002	.002	.002	.002	.002	.003	.003	.003	.003	.003	.003	.003
			51.7	50.8	49.9	49.0	48.2	47.4	46.6	45.8	45.1	44.4	43.7	43.0	42.4	41.8	41.1	40.6
.04	.014	.280	.005	.005	.005	.005	.005	.006	.006	.006	.006	.006	.006	.007	.007	.007	.007	.007
			46.5	45.4	44.4	43.5	42.6	41.7	40.8	40.0	39.2	38.5	37.7	37.0	36.4	35.7	35.1	34.5
.06	.020	.341	.008	.008	.009	.009	.009	.010	.010	.010	.010	.010	.011	.011	.011	.011	.011	.012
			43.2	42.1	41.1	40.1	39.1	38.2	37.3	36.5	35.7	34.9	34.2	33.5	32.9	32.2	31.6	31.0
.08	.028	.392	.012	.012	.013	.013	.013	.014	.014	.014	.015	.015	.015	.016	.016	.016	.016	.017
			40.8	39.7	38.6	37.6	36.6	35.7	34.9	34.0	33.2	32.5	31.8	31.1	30.4	29.8	29.2	28.6
.10	.035	.436	.016	.016	.017	.017	.018	.018	.019	.019	.019	.020	.020	.021	.021	.021	.021	.022
			39.0	37.8	36.7	35.7	34.7	33.8	33.0	32.1	31.4	30.6	29.9	29.2	28.6	27.9	27.4	26.8
.12	.042	.475	.020	.021	.021	.022	.022	.023	.024	.024	.024	.025	.025	.026	.026	.026	.027	.027
			37.4	36.3	35.2	34.2	33.2	32.3	31.4	30.6	29.9	29.1	28.4	27.7	27.1	26.5	25.9	25.4
.14	.049	.510	.024	.025	.026	.027	.027	.028	.029	.029	.030	.030	.031	.031	.032	.032	.032	.033
			36.1	35.0	33.9	32.9	31.9	31.0	30.2	29.4	28.6	27.9	27.2	26.5	25.9	25.3	24.7	24.2
.16	.057	.543	.029	.030	.031	.032	.032	.033	.034	.034	.035	.036	.036	.037	.037	.038	.038	.038
			35.1	33.9	32.8	31.8	30.9	30.0	29.1	28.3	27.6	26.9	26.2	25.5	24.9	24.3	23.8	23.2
.18	.065	.572	.034	.035	.036	.037	.038	.038	.039	.040	.041	.041	.042	.042	.043	.043	.044	.044
			34.1	33.0	31.9	30.9	29.9	29.0	28.2	27.4	26.7	26.0	25.3	24.7	24.1	23.5	22.9	22.4
.20	.073	.600	.039	.040	.041	.042	.043	.044	.045	.045	.046	.047	.048	.048	.049	.049	.050	.050
			33.3	32.1	31.1	30.1	29.1	28.2	27.4	26.6	25.9	25.2	24.5	23.9	23.3	22.7	22.2	21.7
.22	.080	.626	.044	.045	.046	.047	.048	.049	.050	.051	.052	.053	.054	.054	.055	.056	.056	.057
			32.5	31.4	30.3	29.3	28.4	27.5	26.7	25.9	25.2	24.5	23.9	23.2	22.7	22.1	21.6	21.1
.24	.089	.650	.049	.050	.052	.053	.054	.055	.056	.057	.058	.059	.060	.060	.061	.062	.063	.063
			31.8	30.7	29.7	28.7	27.8	26.9	26.1	25.3	24.6	23.9	23.3	22.7	22.1	21.5	21.0	20.5
.26	.097	.673	.054	.056	.057	.059	.060	.061	.062	.063	.064	.065	.066	.067	.068	.068	.069	.070
			31.2	30.1	29.1	28.1	27.2	26.3	25.5	24.8	24.0	23.4	22.7	22.1	21.6	21.0	20.5	20.0

H/D=NORMALIZED DISPLACEMENT, C=LOCAL CRIMP, P/D=NORMALIZED SPACING
ALTERNATE ROWS OF TABLE - FIRST LINE=OVERALL CRIMP, SECOND LINE=COVER FACTOR

TABLE OF VALUES OF OVERALL FILLING CRIMP AND WARP COVER FACTOR
FOR MAXIMUM WEAVABLE FABRICS HAVING SPECIFIED FILLING DISPLACEMENT
WARP SPACING AND LOCAL FILLING CRIMP

(4-HARNESS WEAVES)

			BETA														
H2/D	C2	P1/D	.5	.6	.7	.8	.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
.28	.105	.694	.060	.062	.063	.065	.066	.067	.068	.069	.071	.072	.072	.073	.074	.075	.076	.076
			30.7	29.6	28.5	27.6	26.6	25.8	25.0	24.2	23.5	22.9	22.2	21.6	21.1	20.5	20.0	19.6
.30	.114	.714	.066	.067	.069	.071	.072	.073	.075	.076	.077	.078	.079	.080	.081	.082	.083	.083
			30.2	29.1	28.0	27.1	26.2	25.3	24.5	23.8	23.1	22.4	21.8	21.2	20.7	20.1	19.6	19.1
.32	.123	.733	.071	.073	.075	.077	.078	.080	.081	.082	.084	.085	.086	.087	.088	.089	.089	.090
			29.7	28.6	27.6	26.6	25.7	24.9	24.1	23.4	22.7	22.0	21.4	20.8	20.3	19.8	19.3	18.8
.34	.131	.751	.077	.079	.081	.083	.085	.086	.088	.089	.090	.092	.093	.094	.095	.096	.097	.097
			29.3	28.2	27.2	26.2	25.3	24.5	23.7	23.0	22.3	21.7	21.0	20.5	19.9	19.4	18.9	18.4
.36	.140	.768	.084	.086	.088	.090	.091	.093	.094	.096	.097	.099	.100	.101	.102	.103	.104	.105
			28.9	27.8	26.8	25.9	25.0	24.1	23.4	22.6	22.0	21.3	20.7	20.1	19.6	19.1	18.6	18.1
.38	.150	.785	.090	.092	.094	.096	.098	.100	.101	.103	.104	.106	.107	.108	.109	.110	.111	.112
			28.6	27.5	26.5	25.5	24.6	23.8	23.0	22.3	21.6	21.0	20.4	19.8	19.3	18.8	18.3	17.9
.40	.159	.800	.096	.099	.101	.103	.105	.107	.108	.110	.112	.113	.114	.116	.117	.118	.119	.120
			28.2	27.1	26.1	25.2	24.3	23.5	22.7	22.0	21.4	20.7	20.1	19.6	19.0	18.5	18.1	17.6
.42	.169	.815	.103	.105	.108	.110	.112	.114	.116	.117	.119	.120	.122	.123	.124	.126	.127	.128
			27.9	26.8	25.8	24.9	24.0	23.2	22.5	21.8	21.1	20.5	19.9	19.3	18.8	18.3	17.8	17.4
.44	.179	.828	.109	.112	.115	.117	.119	.121	.123	.125	.126	.128	.129	.131	.132	.133	.135	.136
			27.6	26.6	25.6	24.6	23.8	23.0	22.2	21.5	20.8	20.2	19.6	19.1	18.6	18.1	17.6	17.1
.46	.189	.842	.116	.119	.122	.124	.126	.129	.131	.132	.134	.136	.137	.139	.140	.141	.143	.144
			27.4	26.3	25.3	24.4	23.5	22.7	22.0	21.3	20.6	20.0	19.4	18.9	18.3	17.8	17.4	16.9
.48	.199	.854	.123	.126	.129	.132	.134	.136	.138	.140	.142	.144	.145	.147	.148	.150	.151	.152
			27.1	26.1	25.1	24.1	23.3	22.5	21.7	21.0	20.4	19.8	19.2	18.6	18.1	17.6	17.2	16.7
.50	.209	.866	.130	.134	.136	.139	.142	.144	.146	.148	.150	.152	.154	.155	.157	.158	.159	.161
			26.9	25.8	24.8	23.9	23.1	22.3	21.5	20.8	20.2	19.6	19.0	18.5	17.9	17.5	17.0	16.6
.52	.220	.877	.138	.141	.144	.147	.149	.152	.154	.156	.158	.160	.162	.164	.165	.167	.168	.169
			26.7	25.6	24.6	23.7	22.9	22.1	21.3	20.6	20.0	19.4	18.8	18.3	17.8	17.3	16.8	16.4

H/D=NORMALIZED DISPLACEMENT, C=LOCAL CRIMP, P/D=NORMALIZED SPACING
ALTERNATE ROWS OF TABLE - FIRST LINE=OVERALL CRIMP, SECOND LINE=COVER FACTOR

TABLE OF VALUES OF OVERALL FILLING CRIMP AND WARP COVER FACTOR
FOR MAXIMUM WEAVABLE FABRICS HAVING SPECIFIED FILLING DISPLACEMENT
WARP SPACING AND LOCAL FILLING CRIMP

(4-HARNESS WEAVES)

			BETA															
H2/D	C2	P1/D	.5	.6	.7	.8	.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
.54	.231	.888	.145	.149	.152	.155	.157	.160	.162	.165	.167	.169	.170	.172	.174	.175	.177	.178
			26.5	25.4	24.4	23.5	22.7	21.9	21.2	20.5	19.8	19.2	18.7	18.1	17.6	17.1	16.7	16.3
.56	.242	.898	.153	.156	.160	.163	.166	.168	.171	.173	.175	.177	.179	.181	.183	.184	.186	.187
			26.3	25.2	24.2	23.3	22.5	21.7	21.0	20.3	19.7	19.1	18.5	18.0	17.5	17.0	16.5	16.1
.58	.253	.908	.161	.164	.168	.171	.174	.177	.179	.182	.184	.186	.188	.190	.192	.193	.195	.197
			26.1	25.1	24.1	23.2	22.3	21.6	20.8	20.2	19.5	18.9	18.4	17.8	17.3	16.9	16.4	16.0
.60	.265	.917	.169	.173	.176	.179	.183	.185	.188	.191	.193	.195	.197	.199	.201	.203	.204	.206
			26.0	24.9	23.9	23.0	22.2	21.4	20.7	20.0	19.4	18.8	18.2	17.7	17.2	16.7	16.3	15.9
.62	.277	.925	.177	.181	.185	.188	.191	.194	.197	.200	.202	.204	.207	.209	.211	.212	.214	.216
			25.8	24.7	23.8	22.9	22.0	21.3	20.6	19.9	19.2	18.7	18.1	17.6	17.1	16.6	16.2	15.7
.64	.289	.933	.185	.189	.193	.197	.200	.203	.206	.209	.212	.214	.216	.218	.220	.222	.224	.226
			25.7	24.6	23.6	22.7	21.9	21.1	20.4	19.8	19.1	18.5	18.0	17.5	17.0	16.5	16.1	15.6
.66	.301	.940	.194	.198	.202	.206	.209	.213	.216	.219	.221	.224	.226	.228	.230	.232	.234	.236
			25.5	24.5	23.5	22.6	21.8	21.0	20.3	19.6	19.0	18.4	17.9	17.4	16.9	16.4	16.0	15.5
.68	.314	.947	.202	.207	.211	.215	.219	.222	.225	.228	.231	.234	.236	.238	.240	.242	.244	.246
			25.4	24.4	23.4	22.5	21.7	20.9	20.2	19.5	18.9	18.3	17.8	17.3	16.8	16.3	15.9	15.5
.70	.327	.954	.211	.216	.221	.225	.228	.232	.235	.238	.241	.244	.246	.249	.251	.253	.255	.257
			25.3	24.3	23.3	22.4	21.6	20.8	20.1	19.4	18.8	18.2	17.7	17.2	16.7	16.2	15.8	15.4
.72	.341	.960	.220	.225	.230	.234	.238	.242	.245	.248	.251	.254	.257	.259	.261	.264	.266	.268
			25.2	24.2	23.2	22.3	21.5	20.7	20.0	19.4	18.7	18.1	17.6	17.1	16.6	16.1	15.7	15.3
.74	.354	.966	.230	.235	.240	.244	.248	.252	.255	.259	.262	.265	.267	.270	.272	.275	.277	.279
			25.1	24.1	23.1	22.2	21.4	20.6	19.9	19.3	18.6	18.1	17.5	17.0	16.5	16.1	15.6	15.2
.76	.368	.971	.239	.245	.250	.254	.258	.262	.266	.269	.273	.276	.278	.281	.284	.286	.288	.290
			25.0	24.0	23.0	22.1	21.3	20.6	19.9	19.2	18.6	18.0	17.5	16.9	16.5	16.0	15.6	15.2
.78	.383	.975	.249	.255	.260	.265	.269	.273	.277	.280	.284	.287	.290	.292	.295	.297	.300	.302
			24.9	23.9	22.9	22.1	21.2	20.5	19.8	19.1	18.5	17.9	17.4	16.9	16.4	15.9	15.5	15.1

H/D=NORMALIZED DISPLACEMENT, C=LOCAL CRIMP, P/D=NORMALIZED SPACING
ALTERNATE ROWS OF TABLE - FIRST LINE=OVERALL CRIMP, SECOND LINE=COVER FACTOR

TABLE OF VALUES OF OVERALL FILLING CRIMP AND WARP COVER FACTOR
FOR MAXIMUM WEAVABLE FABRICS HAVING SPECIFIED FILLING DISPLACEMENT
WARP SPACING AND LOCAL FILLING CRIMP

(4-HARNESS WEAVES)

			BETA														
H2/D	C2	P1/D	.5	.6	.7	.8	.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
.80	.398	.980	.259	.265	.270	.275	.280	.284	.288	.292	.295	.298	.301	.304	.307	.309	.312	.314
			24.9	23.8	22.9	22.0	21.2	20.4	19.7	19.1	18.4	17.9	17.3	16.8	16.3	15.9	15.5	15.1
.82	.413	.984	.270	.275	.281	.286	.291	.295	.299	.303	.307	.310	.313	.316	.319	.321	.324	.326
			24.8	23.8	22.8	21.9	21.1	20.4	19.7	19.0	18.4	17.8	17.3	16.8	16.3	15.8	15.4	15.0
.84	.429	.987	.280	.286	.292	.297	.302	.307	.311	.315	.318	.322	.325	.328	.331	.334	.336	.339
			24.7	23.7	22.8	21.9	21.1	20.3	19.6	19.0	18.3	17.8	17.2	16.7	16.2	15.8	15.4	15.0
.86	.445	.990	.291	.297	.303	.309	.314	.318	.323	.327	.331	.334	.338	.341	.344	.346	.349	.352
			24.7	23.7	22.7	21.8	21.0	20.3	19.6	18.9	18.3	17.7	17.2	16.7	16.2	15.8	15.3	14.9
.88	.461	.993	.302	.309	.315	.320	.326	.330	.335	.339	.343	.347	.350	.354	.357	.360	.362	.365
			24.6	23.6	22.7	21.8	21.0	20.2	19.5	18.9	18.3	17.7	17.2	16.7	16.2	15.7	15.3	14.9
.90	.478	.995	.313	.320	.327	.332	.338	.343	.347	.352	.356	.360	.363	.367	.370	.373	.376	.378
			24.6	23.6	22.6	21.8	21.0	20.2	19.5	18.8	18.2	17.7	17.1	16.6	16.1	15.7	15.3	14.9
.92	.496	.997	.325	.332	.339	.345	.350	.356	.360	.365	.369	.373	.377	.380	.384	.387	.390	.392
			24.6	23.6	22.6	21.7	20.9	20.2	19.5	18.8	18.2	17.6	17.1	16.6	16.1	15.7	15.3	14.8
.94	.513	.998	.337	.344	.351	.357	.363	.369	.374	.378	.383	.387	.391	.394	.398	.401	.404	.407
			24.6	23.5	22.6	21.7	20.9	20.2	19.5	18.8	18.2	17.6	17.1	16.6	16.1	15.7	15.2	14.8
.96	.532	.999	.349	.357	.364	.370	.376	.382	.387	.392	.397	.401	.405	.409	.412	.415	.419	.422
			24.5	23.5	22.6	21.7	20.9	20.1	19.4	18.8	18.2	17.6	17.1	16.6	16.1	15.6	15.2	14.8
.98	.551	1.000	.362	.370	.377	.384	.390	.396	.401	.406	.411	.415	.419	.423	.427	.430	.434	.437
			24.5	23.5	22.6	21.7	20.9	20.1	19.4	18.8	18.2	17.6	17.1	16.6	16.1	15.6	15.2	14.8
1.00	.571	1.000	.375	.383	.390	.397	.404	.410	.415	.421	.426	.430	.434	.438	.442	.446	.449	.452
			24.5	23.5	22.6	21.7	20.9	20.1	19.4	18.8	18.2	17.6	17.1	16.6	16.1	15.6	15.2	14.8

H/D=NORMALIZED DISPLACEMENT, C=LOCAL CRIMP, P/D=NORMALIZED SPACING
ALTERNATE ROWS OF TABLE - FIRST LINE=OVERALL CRIMP, SECOND LINE=COVER FACTOR

TABLE OF VALUES OF OVERALL FILLING CRIMP AND WARP COVER FACTOR
FOR MAXIMUM WEAVABLE FABRICS HAVING SPECIFIED FILLING DISPLACEMENT
WARP SPACING AND LOCAL FILLING CRIMP

(5-HARNESS WEAVES)

H2/D	C2	P1/D	BETA .5	.6	.7	.8	.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
.02	.007	.199	.001	.001	.001	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002
			47.5	46.9	46.3	45.7	45.1	44.5	44.0	43.4	42.9	42.4	41.9	41.4	40.9	40.4	40.0	39.5
.04	.014	.280	.004	.004	.004	.004	.004	.004	.005	.005	.005	.005	.005	.005	.005	.005	.006	.006
			43.9	43.2	42.4	41.7	41.0	40.4	39.7	39.1	38.5	37.9	37.4	36.8	36.3	35.8	35.2	34.8
.06	.020	.341	.006	.006	.007	.007	.007	.008	.008	.008	.008	.008	.009	.009	.009	.009	.009	.010
			41.5	40.7	39.9	39.1	38.4	37.7	37.0	36.4	35.7	35.1	34.5	34.0	33.4	32.9	32.4	31.9
.08	.028	.392	.009	.010	.010	.010	.011	.011	.011	.012	.012	.012	.013	.013	.013	.013	.014	.014
			39.7	38.9	38.0	37.2	36.5	35.8	35.1	34.4	33.7	33.1	32.5	31.9	31.4	30.8	30.3	29.8
.10	.035	.436	.012	.013	.013	.014	.014	.015	.015	.016	.016	.016	.017	.017	.017	.018	.018	.018
			38.3	37.4	36.6	35.7	35.0	34.2	33.5	32.8	32.2	31.5	30.9	30.3	29.8	29.2	28.7	28.2
.12	.042	.475	.016	.016	.017	.018	.018	.019	.019	.020	.020	.021	.021	.022	.022	.022	.023	.023
			37.1	36.2	35.3	34.5	33.7	33.0	32.2	31.5	30.9	30.3	29.6	29.1	28.5	28.0	27.4	26.9
.14	.049	.510	.019	.020	.021	.022	.022	.023	.024	.024	.025	.025	.026	.026	.027	.027	.028	.028
			36.1	35.2	34.3	33.5	32.7	31.9	31.2	30.5	29.8	29.2	28.6	28.0	27.4	26.9	26.4	25.9
.16	.057	.543	.023	.024	.025	.026	.027	.027	.028	.029	.029	.030	.031	.031	.032	.032	.033	.033
			35.2	34.3	33.4	32.5	31.7	31.0	30.3	29.6	28.9	28.3	27.7	27.1	26.5	26.0	25.5	25.0
.18	.065	.572	.027	.028	.029	.030	.031	.032	.033	.033	.034	.035	.035	.036	.037	.037	.038	.038
			34.4	33.5	32.6	31.8	31.0	30.2	29.5	28.8	28.1	27.5	26.9	26.3	25.7	25.2	24.7	24.2
.20	.073	.600	.031	.033	.034	.035	.036	.037	.037	.038	.039	.040	.041	.041	.042	.043	.043	.044
			33.8	32.8	31.9	31.1	30.3	29.5	28.8	28.1	27.4	26.8	26.2	25.6	25.1	24.5	24.0	23.5
.22	.080	.626	.036	.037	.038	.039	.040	.041	.042	.043	.044	.045	.046	.047	.047	.048	.049	.049
			33.1	32.2	31.3	30.4	29.6	28.9	28.1	27.4	26.8	26.2	25.6	25.0	24.4	23.9	23.4	22.9
.24	.089	.650	.040	.042	.043	.044	.045	.046	.048	.049	.050	.050	.051	.052	.053	.054	.055	.055
			32.6	31.6	30.7	29.9	29.1	28.3	27.6	26.9	26.2	25.6	25.0	24.4	23.9	23.4	22.9	22.4
.26	.097	.673	.045	.046	.048	.049	.050	.052	.053	.054	.055	.056	.057	.058	.059	.060	.060	.061
			32.1	31.1	30.2	29.4	28.5	27.8	27.1	26.4	25.7	25.1	24.5	24.0	23.4	22.9	22.4	21.9

H/D=NORMALIZED DISPLACEMENT, C=LOCAL CRIMP, P/D=NORMALIZED SPACING
ALTERNATE ROWS OF TABLE - FIRST LINE=OVERALL CRIMP, SECOND LINE=COVER FACTOR

TABLE OF VALUES OF OVERALL FILLING CRIMP AND WARP COVER FACTOR
FOR MAXIMUM WEAVABLE FABRICS HAVING SPECIFIED FILLING DISPLACEMENT
WARP SPACING AND LOCAL FILLING CRIMP

(5-HARNESS WEAVES)

			BETA														
H2/D	C2	P1/D	.5	.6	.7	.8	.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
.28	.105	.694	.049	.051	.053	.054	.056	.057	.058	.059	.061	.062	.063	.064	.065	.066	.066	.067
			31.6	30.6	29.7	28.9	28.1	27.3	26.6	25.9	25.3	24.7	24.1	23.5	23.0	22.5	22.0	21.5
.30	.114	.714	.054	.056	.058	.059	.061	.062	.064	.065	.066	.067	.069	.070	.071	.072	.073	.073
			31.2	30.2	29.3	28.5	27.7	26.9	26.2	25.5	24.9	24.2	23.7	23.1	22.6	22.1	21.6	21.1
.32	.123	.733	.059	.061	.063	.065	.066	.068	.069	.071	.072	.073	.075	.076	.077	.078	.079	.080
			30.8	29.8	28.9	28.1	27.3	26.5	25.8	25.1	24.5	23.9	23.3	22.7	22.2	21.7	21.2	20.7
.34	.131	.751	.064	.066	.068	.070	.072	.074	.075	.077	.078	.079	.081	.082	.083	.084	.085	.086
			30.4	29.5	28.6	27.7	26.9	26.2	25.4	24.8	24.1	23.5	22.9	22.4	21.9	21.4	20.9	20.4
.36	.140	.768	.069	.072	.074	.076	.078	.080	.081	.083	.084	.086	.087	.088	.090	.091	.092	.093
			30.1	29.1	28.2	27.4	26.6	25.8	25.1	24.4	23.8	23.2	22.6	22.1	21.5	21.1	20.6	20.1
.38	.150	.785	.075	.077	.080	.082	.084	.086	.087	.089	.091	.092	.094	.095	.096	.097	.099	.100
			29.8	28.8	27.9	27.1	26.3	25.5	24.8	24.1	23.5	22.9	22.3	21.8	21.3	20.8	20.3	19.8
.40	.159	.800	.080	.083	.085	.088	.090	.092	.094	.095	.097	.099	.100	.102	.103	.104	.106	.107
			29.5	28.5	27.6	26.8	26.0	25.2	24.5	23.9	23.2	22.6	22.1	21.5	21.0	20.5	20.0	19.6
.42	.169	.815	.086	.089	.091	.094	.096	.098	.100	.102	.104	.105	.107	.108	.110	.111	.113	.114
			29.2	28.3	27.4	26.5	25.7	25.0	24.3	23.6	23.0	22.4	21.8	21.3	20.8	20.3	19.8	19.3
.44	.179	.828	.092	.095	.097	.100	.102	.104	.106	.108	.110	.112	.114	.115	.117	.118	.120	.121
			29.0	28.0	27.1	26.3	25.5	24.7	24.0	23.4	22.7	22.1	21.6	21.0	20.5	20.0	19.6	19.1
.46	.189	.842	.098	.101	.103	.106	.109	.111	.113	.115	.117	.119	.121	.123	.124	.126	.127	.129
			28.7	27.8	26.9	26.0	25.2	24.5	23.8	23.1	22.5	21.9	21.4	20.8	20.3	19.8	19.4	18.9
.48	.199	.854	.104	.107	.110	.113	.115	.118	.120	.122	.124	.126	.128	.130	.132	.133	.135	.136
			28.5	27.6	26.7	25.8	25.0	24.3	23.6	22.9	22.3	21.7	21.2	20.6	20.1	19.6	19.2	18.7
.50	.209	.866	.110	.113	.116	.119	.122	.125	.127	.129	.131	.134	.136	.137	.139	.141	.142	.144
			28.3	27.3	26.5	25.6	24.8	24.1	23.4	22.7	22.1	21.5	21.0	20.4	19.9	19.5	19.0	18.6
.52	.220	.877	.116	.120	.123	.126	.129	.132	.134	.137	.139	.141	.143	.145	.147	.149	.150	.152
			28.1	27.2	26.3	25.4	24.6	23.9	23.2	22.6	21.9	21.3	20.8	20.3	19.8	19.3	18.8	18.4

H/D=NORMALIZED DISPLACEMENT, C=LOCAL CRIMP, P/D=NORMALIZED SPACING
ALTERNATE ROWS OF TABLE - FIRST LINE=OVERALL CRIMP, SECOND LINE=COVER FACTOR

TABLE OF VALUES OF OVERALL FILLING CRIMP AND WARP COVER FACTOR
FOR MAXIMUM WEAVABLE FABRICS HAVING SPECIFIED FILLING DISPLACEMENT
WARP SPACING AND LOCAL FILLING CRIMP

(5-HARNESS WEAVES)

			BETA														
H2/D	C2	P1/D	.5	.6	.7	.8	.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
.54	.231	.888	.122	.126	.130	.133	.136	.139	.141	.144	.146	.149	.151	.153	.155	.157	.158	.160
			27.9	27.0	26.1	25.3	24.5	23.7	23.0	22.4	21.8	21.2	20.6	20.1	19.6	19.1	18.7	18.2
.56	.242	.898	.129	.133	.137	.140	.143	.146	.149	.152	.154	.156	.159	.161	.163	.165	.167	.168
			27.8	26.8	25.9	25.1	24.3	23.6	22.9	22.2	21.6	21.0	20.5	20.0	19.5	19.0	18.5	18.1
.58	.253	.908	.136	.140	.144	.147	.150	.154	.157	.159	.162	.164	.167	.169	.171	.173	.175	.177
			27.6	26.7	25.8	24.9	24.2	23.4	22.7	22.1	21.5	20.9	20.3	19.8	19.3	18.8	18.4	18.0
.60	.265	.917	.143	.147	.151	.155	.158	.161	.164	.167	.170	.173	.175	.177	.179	.182	.184	.185
			27.5	26.5	25.6	24.8	24.0	23.3	22.6	21.9	21.3	20.7	20.2	19.7	19.2	18.7	18.3	17.8
.62	.277	.925	.150	.154	.158	.162	.166	.169	.172	.175	.178	.181	.183	.186	.188	.190	.192	.194
			27.3	26.4	25.5	24.7	23.9	23.1	22.5	21.8	21.2	20.6	20.1	19.6	19.1	18.6	18.2	17.7
.64	.289	.933	.157	.162	.166	.170	.174	.177	.180	.184	.187	.189	.192	.195	.197	.199	.201	.203
			27.2	26.3	25.4	24.5	23.8	23.0	22.3	21.7	21.1	20.5	20.0	19.4	19.0	18.5	18.0	17.6
.66	.301	.940	.164	.169	.174	.178	.182	.185	.189	.192	.195	.198	.201	.203	.206	.208	.211	.213
			27.1	26.1	25.2	24.4	23.6	22.9	22.2	21.6	21.0	20.4	19.9	19.3	18.9	18.4	17.9	17.5
.68	.314	.947	.172	.177	.181	.186	.190	.194	.197	.201	.204	.207	.210	.213	.215	.218	.220	.222
			27.0	26.0	25.1	24.3	23.5	22.8	22.1	21.5	20.9	20.3	19.8	19.2	18.8	18.3	17.9	17.4
.70	.327	.954	.180	.185	.190	.194	.198	.202	.206	.210	.213	.216	.219	.222	.225	.227	.230	.232
			26.9	25.9	25.0	24.2	23.4	22.7	22.0	21.4	20.8	20.2	19.7	19.2	18.7	18.2	17.8	17.3
.72	.341	.960	.187	.193	.198	.203	.207	.211	.215	.219	.222	.225	.229	.231	.234	.237	.239	.242
			26.8	25.8	24.9	24.1	23.3	22.6	21.9	21.3	20.7	20.1	19.6	19.1	18.6	18.1	17.7	17.3
.74	.354	.966	.195	.201	.206	.211	.216	.220	.224	.228	.232	.235	.238	.241	.244	.247	.249	.252
			26.7	25.7	24.9	24.0	23.3	22.5	21.9	21.2	20.6	20.0	19.5	19.0	18.5	18.1	17.6	17.2
.76	.368	.971	.204	.210	.215	.220	.225	.229	.234	.237	.241	.245	.248	.251	.254	.257	.260	.262
			26.6	25.7	24.8	24.0	23.2	22.5	21.8	21.2	20.5	20.0	19.4	18.9	18.4	18.0	17.5	17.1
.78	.383	.975	.212	.218	.224	.229	.234	.239	.243	.247	.251	.255	.258	.261	.265	.268	.270	.273
			26.5	25.6	24.7	23.9	23.1	22.4	21.7	21.1	20.5	19.9	19.4	18.9	18.4	17.9	17.5	17.1

H/D=NORMALIZED DISPLACEMENT, C=LOCAL CRIMP, P/D=NORMALIZED SPACING
ALTERNATE ROWS OF TABLE - FIRST LINE=OVERALL CRIMP, SECOND LINE=COVER FACTOR

TABLE OF VALUES OF OVERALL FILLING CRIMP AND WARP COVER FACTOR
FOR MAXIMUM WEAVABLE FABRICS HAVING SPECIFIED FILLING DISPLACEMENT
WARP SPACING AND LOCAL FILLING CRIMP

(5-HARNESS WEAVES)

			BETA														
H2/D	C2	P1/D	.5	.6	.7	.8	.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
.80	.398	.980	.221	.227	.233	.238	.244	.248	.253	.257	.261	.265	.269	.272	.275	.278	.281	.284
			26.5	25.5	24.7	23.8	23.1	22.3	21.7	21.0	20.4	19.9	19.3	18.8	18.3	17.9	17.4	17.0
.82	.413	.984	.230	.236	.242	.248	.253	.258	.263	.267	.272	.275	.279	.283	.286	.289	.292	.295
			26.4	25.5	24.6	23.8	23.0	22.3	21.6	21.0	20.4	19.8	19.3	18.8	18.3	17.8	17.4	17.0
.84	.429	.987	.239	.245	.252	.258	.263	.268	.273	.278	.282	.286	.290	.294	.297	.300	.304	.307
			26.4	25.4	24.5	23.7	23.0	22.2	21.6	20.9	20.3	19.8	19.2	18.7	18.2	17.8	17.3	16.9
.86	.445	.990	.248	.255	.262	.268	.273	.279	.284	.289	.293	.297	.301	.305	.309	.312	.315	.318
			26.3	25.4	24.5	23.7	22.9	22.2	21.5	20.9	20.3	19.7	19.2	18.7	18.2	17.7	17.3	16.9
.88	.461	.993	.257	.265	.272	.278	.284	.289	.295	.300	.304	.309	.313	.317	.320	.324	.327	.330
			26.3	25.3	24.5	23.6	22.9	22.2	21.5	20.8	20.2	19.7	19.1	18.6	18.2	17.7	17.3	16.9
.90	.478	.995	.267	.275	.282	.288	.295	.300	.306	.311	.316	.320	.324	.329	.332	.336	.339	.343
			26.3	25.3	24.4	23.6	22.8	22.1	21.5	20.8	20.2	19.7	19.1	18.6	18.1	17.7	17.2	16.8
.92	.496	.997	.277	.285	.292	.299	.306	.312	.317	.322	.327	.332	.337	.341	.345	.348	.352	.356
			26.2	25.3	24.4	23.6	22.8	22.1	21.4	20.8	20.2	19.6	19.1	18.6	18.1	17.7	17.2	16.8
.94	.513	.998	.287	.296	.303	.310	.317	.323	.329	.334	.339	.344	.349	.353	.357	.361	.365	.369
			26.2	25.3	24.4	23.6	22.8	22.1	21.4	20.8	20.2	19.6	19.1	18.6	18.1	17.6	17.2	16.8
.96	.532	.999	.298	.306	.314	.322	.328	.335	.341	.346	.352	.357	.362	.366	.370	.374	.378	.382
			26.2	25.2	24.4	23.5	22.8	22.1	21.4	20.8	20.2	19.6	19.1	18.6	18.1	17.6	17.2	16.8
.98	.551	1.000	.309	.317	.326	.333	.340	.347	.353	.359	.364	.370	.375	.379	.384	.388	.392	.396
			26.2	25.2	24.4	23.5	22.8	22.1	21.4	20.8	20.2	19.6	19.1	18.6	18.1	17.6	17.2	16.8
1.00	.571	1.000	.320	.329	.337	.345	.352	.359	.366	.372	.378	.383	.388	.393	.397	.402	.406	.410
			26.2	25.2	24.4	23.5	22.8	22.1	21.4	20.7	20.2	19.6	19.1	18.5	18.1	17.6	17.2	16.8

H/D=NORMALIZED DISPLACEMENT, C=LOCAL CRIMP, P/D=NORMALIZED SPACING
ALTERNATE ROWS OF TABLE - FIRST LINE=OVERALL CRIMP, SECOND LINE=COVER FACTOR

TABLE III

VALUES OF OVERALL WARP CRIMP AND FILLING COVER FACTOR FOR MAXIMUM WEAVABLE FABRICS HAVING SPECIFIED WARP DISPLACEMENT, FILLING SPACING, AND LOCAL WARP CRIMP

PLAIN WEAVES

3-HARNESS WEAVES

4-HARNESS WEAVES

5-HARNESS WEAVES

TABLE OF VALUES OF OVERALL WARP CRIMP AND FILLING COVER FACTOR
FOR MAXIMUM WEAVABLE FABRICS HAVING SPECIFIED WARP DISPLACEMENT
FILLING SPACING AND LOCAL WARP CRIMP

(PLAIN WEAVES)

			BETA															
H1/D	C1	P2/D	.5	.6	.7	.8	.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
.02	.007	.199	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007
			46.9	52.8	57.9	62.5	66.6	70.4	73.7	76.7	79.5	82.1	84.4	86.6	88.6	90.5	92.2	93.8
.04	.014	.280	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014
			33.3	37.5	41.2	44.4	47.4	50.0	52.4	54.5	56.5	58.3	60.0	61.5	63.0	64.3	65.5	66.7
.06	.020	.341	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020
			27.4	30.8	33.8	36.5	38.9	41.0	43.0	44.8	46.4	47.9	49.2	50.5	51.7	52.8	53.8	54.7
.08	.028	.392	.028	.028	.028	.028	.028	.028	.028	.028	.028	.028	.028	.028	.028	.028	.028	.028
			23.8	26.8	29.4	31.8	33.8	35.7	37.4	39.0	40.4	41.7	42.9	44.0	45.0	45.9	46.8	47.6
.10	.035	.436	.035	.035	.035	.035	.035	.035	.035	.035	.035	.035	.035	.035	.035	.035	.035	.035
			21.4	24.1	26.5	28.5	30.4	32.1	33.6	35.0	36.3	37.5	38.5	39.5	40.4	41.3	42.1	42.8
.12	.042	.475	.042	.042	.042	.042	.042	.042	.042	.042	.042	.042	.042	.042	.042	.042	.042	.042
			19.7	22.1	24.3	26.2	27.9	29.5	30.9	32.2	33.3	34.4	35.4	36.3	37.1	37.9	38.6	39.3
.14	.049	.510	.049	.049	.049	.049	.049	.049	.049	.049	.049	.049	.049	.049	.049	.049	.049	.049
			18.3	20.6	22.6	24.4	26.0	27.4	28.7	29.9	31.0	32.0	32.9	33.8	34.5	35.3	35.9	36.6
.16	.057	.543	.057	.057	.057	.057	.057	.057	.057	.057	.057	.057	.057	.057	.057	.057	.057	.057
			17.2	19.4	21.2	22.9	24.4	25.8	27.0	28.1	29.2	30.1	31.0	31.8	32.5	33.2	33.8	34.4
.18	.065	.572	.065	.065	.065	.065	.065	.065	.065	.065	.065	.065	.065	.065	.065	.065	.065	.065
			16.3	18.3	20.1	21.7	23.2	24.5	25.6	26.7	27.7	28.5	29.4	30.1	30.8	31.4	32.1	32.6
.20	.073	.600	.073	.073	.073	.073	.073	.073	.073	.073	.073	.073	.073	.073	.073	.073	.073	.073
			15.6	17.5	19.2	20.7	22.1	23.3	24.4	25.5	26.4	27.2	28.0	28.7	29.4	30.0	30.6	31.1
.22	.080	.626	.080	.080	.080	.080	.080	.080	.080	.080	.080	.080	.080	.080	.080	.080	.080	.080
			14.9	16.8	18.4	19.9	21.2	22.4	23.4	24.4	25.3	26.1	26.8	27.5	28.2	28.8	29.3	29.8
.24	.089	.650	.089	.089	.089	.089	.089	.089	.089	.089	.089	.089	.089	.089	.089	.089	.089	.089
			14.4	16.2	17.7	19.1	20.4	21.5	22.6	23.5	24.4	25.1	25.8	26.5	27.1	27.7	28.2	28.7
.26	.097	.673	.097	.097	.097	.097	.097	.097	.097	.097	.097	.097	.097	.097	.097	.097	.097	.097
			13.9	15.6	17.1	18.5	19.7	20.8	21.8	22.7	23.5	24.3	25.0	25.6	26.2	26.8	27.3	27.8

H/D=NORMALIZED DISPLACEMENT, C=LOCAL CRIMP, P/D=NORMALIZED SPACING
ALTERNATE ROWS OF TABLE - FIRST LINE=OVERALL CRIMP, SECOND LINE=COVER FACTOR
FOR THE PLAIN WEAVE, LOCAL CRIMP=OVERALL CRIMP

TABLE OF VALUES OF OVERALL WARP CRIMP AND FILLING COVER FACTOR
FOR MAXIMUM WEAVABLE FABRICS HAVING SPECIFIED WARP DISPLACEMENT
FILLING SPACING AND LOCAL WARP CRIMP

(PLAIN WEAVES)

			BETA														
H1/D	C1	P2/D	.5	.6	.7	.8	.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
.28	.105	.694	.105	.105	.105	.105	.105	.105	.105	.105	.105	.105	.105	.105	.105	.105	.105	.105
			13.4	15.1	16.6	17.9	19.1	20.2	21.1	22.0	22.8	23.5	24.2	24.8	25.4	25.9	26.4	26.9
.30	.114	.714	.114	.114	.114	.114	.114	.114	.114	.114	.114	.114	.114	.114	.114	.114	.114	.114
			13.1	14.7	16.1	17.4	18.6	19.6	20.5	21.4	22.2	22.9	23.5	24.1	24.7	25.2	25.7	26.1
.32	.123	.733	.123	.123	.123	.123	.123	.123	.123	.123	.123	.123	.123	.123	.123	.123	.123	.123
			12.7	14.3	15.7	17.0	18.1	19.1	20.0	20.8	21.6	22.3	22.9	23.5	24.0	24.5	25.0	25.5
.34	.131	.751	.131	.131	.131	.131	.131	.131	.131	.131	.131	.131	.131	.131	.131	.131	.131	.131
			12.4	14.0	15.3	16.6	17.7	18.6	19.5	20.3	21.1	21.7	22.4	22.9	23.5	24.0	24.4	24.8
.36	.140	.768	.140	.140	.140	.140	.140	.140	.140	.140	.140	.140	.140	.140	.140	.140	.140	.140
			12.1	13.7	15.0	16.2	17.3	18.2	19.1	19.9	20.6	21.3	21.9	22.4	22.9	23.4	23.9	24.3
.38	.150	.785	.150	.150	.150	.150	.150	.150	.150	.150	.150	.150	.150	.150	.150	.150	.150	.150
			11.9	13.4	14.7	15.9	16.9	17.8	18.7	19.5	20.2	20.8	21.4	22.0	22.5	22.9	23.4	23.8
.40	.159	.800	.159	.159	.159	.159	.159	.159	.159	.159	.159	.159	.159	.159	.159	.159	.159	.159
			11.7	13.1	14.4	15.6	16.6	17.5	18.3	19.1	19.8	20.4	21.0	21.5	22.0	22.5	22.9	23.3
.42	.169	.815	.169	.169	.169	.169	.169	.169	.169	.169	.169	.169	.169	.169	.169	.169	.169	.169
			11.5	12.9	14.2	15.3	16.3	17.2	18.0	18.7	19.4	20.1	20.6	21.2	21.6	22.1	22.5	22.9
.44	.179	.828	.179	.179	.179	.179	.179	.179	.179	.179	.179	.179	.179	.179	.179	.179	.179	.179
			11.3	12.7	13.9	15.0	16.0	16.9	17.7	18.4	19.1	19.7	20.3	20.8	21.3	21.7	22.1	22.5
.46	.189	.842	.189	.189	.189	.189	.189	.189	.189	.189	.189	.189	.189	.189	.189	.189	.189	.189
			11.1	12.5	13.7	14.8	15.8	16.6	17.4	18.1	18.8	19.4	20.0	20.5	20.9	21.4	21.8	22.2
.48	.199	.854	.199	.199	.199	.199	.199	.199	.199	.199	.199	.199	.199	.199	.199	.199	.199	.199
			10.9	12.3	13.5	14.6	15.5	16.4	17.2	17.9	18.5	19.1	19.7	20.2	20.6	21.1	21.5	21.9
.50	.209	.866	.209	.209	.209	.209	.209	.209	.209	.209	.209	.209	.209	.209	.209	.209	.209	.209
			10.8	12.1	13.3	14.4	15.3	16.2	16.9	17.6	18.3	18.9	19.4	19.9	20.4	20.8	21.2	21.6
.52	.220	.877	.220	.220	.220	.220	.220	.220	.220	.220	.220	.220	.220	.220	.220	.220	.220	.220
			10.6	12.0	13.1	14.2	15.1	16.0	16.7	17.4	18.0	18.6	19.2	19.6	20.1	20.5	20.9	21.3

H/D=NORMALIZED DISPLACEMENT, C=LOCAL CRIMP, P/D=NORMALIZED SPACING
ALTERNATE ROWS OF TABLE - FIRST LINE=OVERALL CRIMP, SECOND LINE=COVER FACTOR
FOR THE PLAIN WEAVE, LOCAL CRIMP=OVERALL CRIMP

TABLE OF VALUES OF OVERALL WARP CRIMP AND FILLING COVER FACTOR
FOR MAXIMUM WEAVABLE FABRICS HAVING SPECIFIED WARP DISPLACEMENT
FILLING SPACING AND LOCAL WARP CRIMP

(PLAIN WEAVES)

H1/D	C1	P2/D	BETA															
			.5	.6	.7	.8	.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
.54	.231	.888	.231	.231	.231	.231	.231	.231	.231	.231	.231	.231	.231	.231	.231	.231	.231	.231
			10.5	11.8	13.0	14.0	14.9	15.8	16.5	17.2	17.8	18.4	18.9	19.4	19.9	20.3	20.7	21.0
.56	.242	.898	.242	.242	.242	.242	.242	.242	.242	.242	.242	.242	.242	.242	.242	.242	.242	.242
			10.4	11.7	12.8	13.9	14.8	15.6	16.3	17.0	17.6	18.2	18.7	19.2	19.6	20.0	20.4	20.8
.58	.253	.908	.253	.253	.253	.253	.253	.253	.253	.253	.253	.253	.253	.253	.253	.253	.253	.253
			10.3	11.6	12.7	13.7	14.6	15.4	16.2	16.8	17.4	18.0	18.5	19.0	19.4	19.8	20.2	20.6
.60	.265	.917	.265	.265	.265	.265	.265	.265	.265	.265	.265	.265	.265	.265	.265	.265	.265	.265
			10.2	11.5	12.6	13.6	14.5	15.3	16.0	16.7	17.3	17.8	18.3	18.8	19.2	19.6	20.0	20.4
.62	.277	.925	.277	.277	.277	.277	.277	.277	.277	.277	.277	.277	.277	.277	.277	.277	.277	.277
			10.1	11.4	12.5	13.5	14.3	15.1	15.9	16.5	17.1	17.7	18.2	18.6	19.1	19.5	19.8	20.2
.64	.289	.933	.289	.289	.289	.289	.289	.289	.289	.289	.289	.289	.289	.289	.289	.289	.289	.289
			10.0	11.3	12.4	13.3	14.2	15.0	15.7	16.4	17.0	17.5	18.0	18.5	18.9	19.3	19.7	20.0
.66	.301	.940	.301	.301	.301	.301	.301	.301	.301	.301	.301	.301	.301	.301	.301	.301	.301	.301
			9.9	11.2	12.3	13.2	14.1	14.9	15.6	16.2	16.8	17.4	17.9	18.3	18.7	19.1	19.5	19.8
.68	.314	.947	.314	.314	.314	.314	.314	.314	.314	.314	.314	.314	.314	.314	.314	.314	.314	.314
			9.9	11.1	12.2	13.1	14.0	14.8	15.5	16.1	16.7	17.2	17.7	18.2	18.6	19.0	19.4	19.7
.70	.327	.954	.327	.327	.327	.327	.327	.327	.327	.327	.327	.327	.327	.327	.327	.327	.327	.327
			9.8	11.0	12.1	13.0	13.9	14.7	15.4	16.0	16.6	17.1	17.6	18.1	18.5	18.9	19.2	19.6
.72	.341	.960	.341	.341	.341	.341	.341	.341	.341	.341	.341	.341	.341	.341	.341	.341	.341	.341
			9.7	10.9	12.0	13.0	13.8	14.6	15.3	15.9	16.5	17.0	17.5	17.9	18.4	18.7	19.1	19.4
.74	.354	.966	.354	.354	.354	.354	.354	.354	.354	.354	.354	.354	.354	.354	.354	.354	.354	.354
			9.7	10.9	11.9	12.9	13.7	14.5	15.2	15.8	16.4	16.9	17.4	17.8	18.3	18.6	19.0	19.3
.76	.368	.971	.368	.368	.368	.368	.368	.368	.368	.368	.368	.368	.368	.368	.368	.368	.368	.368
			9.6	10.8	11.9	12.8	13.7	14.4	15.1	15.7	16.3	16.8	17.3	17.7	18.2	18.5	18.9	19.2
.78	.383	.975	.383	.383	.383	.383	.383	.383	.383	.383	.383	.383	.383	.383	.383	.383	.383	.383
			9.6	10.8	11.8	12.8	13.6	14.4	15.0	15.7	16.2	16.7	17.2	17.7	18.1	18.5	18.8	19.1

H/D=NORMALIZED DISPLACEMENT, C=LOCAL CRIMP, P/D=NORMALIZED SPACING
ALTERNATE ROWS OF TABLE - FIRST LINE=OVERALL CRIMP, SECOND LINE=COVER FACTOR
FOR THE PLAIN WEAVE, LOCAL CRIMP=OVERALL CRIMP

TABLE OF VALUES OF OVERALL WARP CRIMP AND FILLING COVER FACTOR
FOR MAXIMUM WEAVABLE FABRICS HAVING SPECIFIED WARP DISPLACEMENT
FILLING SPACING AND LOCAL WARP CRIMP

(PLAIN WEAVES)

H1/D	C1	P2/D	BETA .5	.6	.7	.8	.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
.80	.398	.980	.398	.398	.398	.398	.398	.398	.398	.398	.398	.398	.398	.398	.398	.398	.398	.398
			9.5	10.7	11.8	12.7	13.5	14.3	15.0	15.6	16.2	16.7	17.1	17.6	18.0	18.4	18.7	19.1
.82	.413	.984	.413	.413	.413	.413	.413	.413	.413	.413	.413	.413	.413	.413	.413	.413	.413	.413
			9.5	10.7	11.7	12.7	13.5	14.2	14.9	15.5	16.1	16.6	17.1	17.5	17.9	18.3	18.6	19.0
.84	.429	.987	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429
			9.5	10.6	11.7	12.6	13.4	14.2	14.9	15.5	16.0	16.5	17.0	17.5	17.9	18.2	18.6	18.9
.86	.445	.990	.445	.445	.445	.445	.445	.445	.445	.445	.445	.445	.445	.445	.445	.445	.445	.445
			9.4	10.6	11.6	12.6	13.4	14.1	14.8	15.4	16.0	16.5	17.0	17.4	17.8	18.2	18.5	18.9
.88	.461	.993	.461	.461	.461	.461	.461	.461	.461	.461	.461	.461	.461	.461	.461	.461	.461	.461
			9.4	10.6	11.6	12.5	13.4	14.1	14.8	15.4	15.9	16.5	16.9	17.4	17.8	18.1	18.5	18.8
.90	.478	.995	.478	.478	.478	.478	.478	.478	.478	.478	.478	.478	.478	.478	.478	.478	.478	.478
			9.4	10.6	11.6	12.5	13.3	14.1	14.7	15.3	15.9	16.4	16.9	17.3	17.7	18.1	18.4	18.8
.92	.496	.997	.496	.496	.496	.496	.496	.496	.496	.496	.496	.496	.496	.496	.496	.496	.496	.496
			9.4	10.5	11.6	12.5	13.3	14.0	14.7	15.3	15.9	16.4	16.9	17.3	17.7	18.1	18.4	18.7
.94	.513	.998	.513	.513	.513	.513	.513	.513	.513	.513	.513	.513	.513	.513	.513	.513	.513	.513
			9.4	10.5	11.6	12.5	13.3	14.0	14.7	15.3	15.9	16.4	16.8	17.3	17.7	18.0	18.4	18.7
.96	.532	.999	.532	.532	.532	.532	.532	.532	.532	.532	.532	.532	.532	.532	.532	.532	.532	.532
			9.3	10.5	11.5	12.5	13.3	14.0	14.7	15.3	15.8	16.3	16.8	17.2	17.6	18.0	18.4	18.7
.98	.551	1.000	.551	.551	.551	.551	.551	.551	.551	.551	.551	.551	.551	.551	.551	.551	.551	.551
			9.3	10.5	11.5	12.4	13.3	14.0	14.7	15.3	15.8	16.3	16.8	17.2	17.6	18.0	18.3	18.7
1.00	.571	1.000	.571	.571	.571	.571	.571	.571	.571	.571	.571	.571	.571	.571	.571	.571	.571	.571
			9.3	10.5	11.5	12.4	13.3	14.0	14.7	15.3	15.8	16.3	16.8	17.2	17.6	18.0	18.3	18.7

H/D=NORMALIZED DISPLACEMENT, C=LOCAL CRIMP, P/D=NORMALIZED SPACING
ALTERNATE ROWS OF TABLE - FIRST LINE=OVERALL CRIMP, SECOND LINE=COVER FACTOR
FOR THE PLAIN WEAVE, LOCAL CRIMP=OVERALL CRIMP

TABLE OF VALUES OF OVERALL WARP CRIMP AND FILLING COVER FACTOR
FOR MAXIMUM WEAVABLE FABRICS HAVING SPECIFIED WARP DISPLACEMENT
FILLING SPACING AND LOCAL WARP CRIMP

(3-HARNESS WEAVES)

			BETA														
H1/D	C1	P2/D	.5	.6	.7	.8	.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
.02	.007	.199	.004	.004	.004	.004	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003
			42.5	45.6	48.1	50.1	51.8	53.3	54.6	55.7	56.6	57.5	58.2	58.9	59.5	60.1	60.6	61.0
.04	.014	.280	.009	.009	.009	.008	.008	.008	.008	.008	.008	.007	.007	.007	.007	.007	.007	.007
			34.1	36.9	39.2	41.2	42.8	44.2	45.4	46.5	47.4	48.3	49.0	49.7	50.3	50.9	51.4	51.9
.06	.020	.341	.015	.014	.014	.014	.013	.013	.013	.013	.012	.012	.012	.012	.012	.012	.012	.012
			29.7	32.3	34.5	36.3	37.8	39.2	40.3	41.4	42.3	43.1	43.8	44.5	45.1	45.6	46.1	46.6
.08	.028	.392	.021	.020	.020	.019	.019	.018	.018	.018	.018	.017	.017	.017	.017	.017	.017	.017
			26.8	29.2	31.3	33.0	34.5	35.8	36.9	37.9	38.8	39.5	40.3	40.9	41.5	42.0	42.5	42.9
.10	.035	.436	.027	.026	.025	.025	.024	.024	.024	.023	.023	.023	.023	.022	.022	.022	.022	.022
			24.7	27.0	29.0	30.6	32.0	33.3	34.4	35.3	36.2	36.9	37.6	38.2	38.8	39.3	39.8	40.2
.12	.042	.475	.033	.032	.031	.031	.030	.030	.029	.029	.029	.028	.028	.028	.028	.027	.027	.027
			23.1	25.3	27.2	28.8	30.1	31.3	32.4	33.3	34.1	34.9	35.5	36.1	36.7	37.2	37.7	38.1
.14	.049	.510	.039	.038	.038	.037	.036	.036	.035	.035	.034	.034	.034	.034	.033	.033	.033	.033
			21.8	24.0	25.8	27.3	28.6	29.8	30.8	31.7	32.5	33.2	33.8	34.4	35.0	35.5	35.9	36.3
.16	.057	.543	.046	.045	.044	.043	.042	.042	.041	.041	.040	.040	.040	.039	.039	.039	.039	.038
			20.8	22.8	24.6	26.1	27.3	28.5	29.4	30.3	31.1	31.8	32.4	33.0	33.5	34.0	34.5	34.9
.18	.065	.572	.053	.051	.050	.050	.049	.048	.048	.047	.047	.046	.046	.045	.045	.045	.045	.044
			19.9	21.9	23.6	25.0	26.3	27.4	28.3	29.2	29.9	30.6	31.2	31.8	32.3	32.8	33.2	33.6
.20	.073	.600	.060	.058	.057	.056	.055	.055	.054	.053	.053	.052	.052	.052	.051	.051	.051	.050
			19.2	21.1	22.7	24.1	25.3	26.4	27.3	28.2	28.9	29.6	30.2	30.8	31.3	31.7	32.1	32.5
.22	.080	.626	.067	.065	.064	.063	.062	.061	.061	.060	.059	.059	.058	.058	.058	.057	.057	.057
			18.5	20.4	22.0	23.3	24.5	25.6	26.5	27.3	28.0	28.7	29.3	29.8	30.3	30.8	31.2	31.6
.24	.089	.650	.074	.072	.071	.070	.069	.068	.067	.067	.066	.065	.065	.065	.064	.064	.063	.063
			17.9	19.8	21.3	22.7	23.8	24.8	25.7	26.5	27.3	27.9	28.5	29.0	29.5	30.0	30.4	30.8
.26	.097	.673	.081	.079	.078	.077	.076	.075	.074	.073	.073	.072	.072	.071	.071	.070	.070	.070
			17.4	19.2	20.7	22.0	23.2	24.2	25.1	25.9	26.6	27.2	27.8	28.3	28.8	29.2	29.6	30.0

H/D=NORMALIZED DISPLACEMENT, C=LOCAL CRIMP, P/D=NORMALIZED SPACING
ALTERNATE ROWS OF TABLE - FIRST LINE=OVERALL CRIMP, SECOND LINE=COVER FACTOR

TABLE OF VALUES OF OVERALL WARP CRIMP AND FILLING COVER FACTOR
FOR MAXIMUM WEAVABLE FABRICS HAVING SPECIFIED WARP DISPLACEMENT
FILLING SPACING AND LOCAL WARP CRIMP

(3-HARNESS WEAVES)

			BETA														
H1/D	C1	P2/D	.5	.6	.7	.8	.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
.28	.105	.694	.089	.087	.085	.084	.083	.082	.081	.080	.080	.079	.079	.078	.078	.077	.077	.076
			17.0	18.7	20.2	21.5	22.6	23.6	24.5	25.2	25.9	26.6	27.1	27.7	28.1	28.6	29.0	29.3
.30	.114	.714	.096	.094	.093	.091	.090	.089	.088	.088	.087	.086	.086	.085	.085	.084	.084	.083
			16.6	18.3	19.8	21.0	22.1	23.1	23.9	24.7	25.4	26.0	26.6	27.1	27.5	28.0	28.4	28.7
.32	.123	.733	.104	.102	.100	.099	.098	.097	.096	.095	.094	.093	.093	.092	.092	.091	.091	.090
			16.2	17.9	19.3	20.6	21.7	22.6	23.5	24.2	24.9	25.5	26.0	26.5	27.0	27.4	27.8	28.2
.34	.131	.751	.112	.110	.108	.107	.105	.104	.103	.102	.101	.101	.100	.099	.099	.098	.098	.097
			15.9	17.5	19.0	20.2	21.2	22.2	23.0	23.7	24.4	25.0	25.6	26.1	26.5	26.9	27.3	27.7
.36	.140	.768	.120	.118	.116	.114	.113	.112	.111	.110	.109	.108	.108	.107	.106	.106	.105	.105
			15.6	17.2	18.6	19.8	20.9	21.8	22.6	23.3	24.0	24.6	25.1	25.6	26.1	26.5	26.9	27.2
.38	.150	.785	.128	.126	.124	.122	.121	.120	.119	.118	.117	.116	.115	.114	.114	.113	.113	.112
			15.3	16.9	18.3	19.5	20.5	21.4	22.2	23.0	23.6	24.2	24.7	25.2	25.7	26.1	26.4	26.8
.40	.159	.800	.137	.134	.132	.131	.129	.128	.127	.126	.125	.124	.123	.122	.122	.12.	.120	.120
			15.0	16.6	18.0	19.2	20.2	21.1	21.9	22.6	23.2	23.8	24.4	24.8	25.3	25.7	26.1	26.4
.42	.169	.815	.145	.143	.141	.139	.137	.136	.135	.134	.133	.132	.131	.130	.129	.129	.128	.128
			14.8	16.4	17.7	18.9	19.9	20.8	21.6	22.3	22.9	23.5	24.0	24.5	24.9	25.3	25.7	26.0
.44	.179	.828	.154	.152	.149	.147	.146	.144	.143	.142	.141	.140	.139	.138	.138	.137	.136	.136
			14.6	16.1	17.5	18.6	19.6	20.5	21.3	22.0	22.6	23.2	23.7	24.2	24.6	25.0	25.4	25.7
.46	.189	.842	.163	.160	.158	.156	.154	.153	.152	.150	.149	.148	.147	.147	.146	.145	.144	.144
			14.4	15.9	17.2	18.4	19.4	20.2	21.0	21.7	22.3	22.9	23.4	23.9	24.3	24.7	25.1	25.4
.48	.199	.854	.172	.170	.167	.165	.163	.162	.160	.159	.158	.157	.156	.155	.154	.153	.153	.152
			14.2	15.7	17.0	18.2	19.1	20.0	20.8	21.5	22.1	22.6	23.1	23.6	24.0	24.4	24.8	25.1
.50	.209	.866	.182	.179	.176	.174	.172	.171	.169	.168	.167	.165	.164	.164	.163	.162	.161	.161
			14.0	15.5	16.8	17.9	18.9	19.8	20.5	21.2	21.8	22.4	22.9	23.4	23.8	24.2	24.5	2[illegible].8
.52	.220	.877	.191	.188	.186	.183	.181	.180	.178	.177	.175	.174	.173	.172	.172	.171	.170	.169
			13.9	15.4	16.6	17.8	18.7	19.6	20.3	21.0	21.6	22.2	22.7	23.1	23.5	23.9	24.3	24.6

H/D=NORMALIZED DISPLACEMENT, C=LOCAL CRIMP, P/D=NORMALIZED SPACING
ALTERNATE ROWS OF TABLE - FIRST LINE=OVERALL CRIMP, SECOND LINE=COVER FACTOR

TABLE OF VALUES OF OVERALL WARP CRIMP AND FILLING COVER FACTOR
FOR MAXIMUM WEAVABLE FABRICS HAVING SPECIFIED WARP DISPLACEMENT
FILLING SPACING AND LOCAL WARP CRIMP

(3-HARNESS WEAVES)

H1/D	C1	P2/D	BETA .5	.6	.7	.8	.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
.54	.231	.888	.201	.198	.195	.193	.191	.189	.187	.186	.185	.183	.182	.181	.181	.180	.179	.178
			13.7	15.2	16.5	17.6	18.5	19.4	20.1	20.8	21.4	21.9	22.4	22.9	23.3	23.7	24.0	24.4
.56	.242	.898	.211	.208	.205	.203	.200	.198	.197	.195	.194	.193	.192	.191	.190	.189	.188	.187
			13.6	15.1	16.3	17.4	18.4	19.2	19.9	20.6	21.2	21.8	22.2	22.7	23.1	23.5	23.8	24.2
.58	.253	.908	.221	.218	.215	.212	.210	.208	.206	.205	.203	.202	.201	.200	.199	.198	.197	.197
			13.5	14.9	16.2	17.3	18.2	19.0	19.8	20.4	21.0	21.6	22.1	22.5	22.9	23.3	23.6	24.0
.60	.265	.917	.232	.228	.225	.223	.220	.218	.216	.215	.213	.212	.211	.210	.209	.208	.207	.206
			13.4	14.8	16.0	17.1	18.1	18.9	19.6	20.3	20.9	21.4	21.9	22.3	22.7	23.1	23.5	23.8
.62	.277	.925	.242	.239	.236	.233	.230	.228	.226	.225	.223	.222	.221	.219	.218	.217	.217	.216
			13.3	14.7	15.9	17.0	17.9	18.7	19.5	20.1	20.7	21.2	21.7	22.2	22.6	22.9	23.3	23.6
.64	.289	.933	.253	.250	.246	.243	.241	.239	.237	.235	.233	.232	.231	.230	.228	.227	.227	.226
			13.2	14.6	15.8	16.9	17.8	18.6	19.3	20.0	20.6	21.1	21.6	22.0	22.4	22.8	23.1	23.5
.66	.301	.940	.265	.261	.257	.254	.252	.249	.247	.246	.244	.242	.241	.240	.239	.238	.237	.236
			13.1	14.5	15.7	16.7	17.7	18.5	19.2	19.9	20.4	21.0	21.4	21.9	22.3	22.7	23.0	23.3
.68	.314	.947	.276	.272	.268	.265	.263	.260	.258	.256	.255	.253	.252	.250	.249	.248	.247	.246
			13.0	14.4	15.6	16.6	17.6	18.4	19.1	19.7	20.3	20.8	21.3	21.8	22.2	22.5	22.9	23.2
.70	.327	.954	.288	.283	.280	.277	.274	.271	.269	.267	.265	.264	.262	.261	.260	.259	.258	.257
			12.9	14.3	15.5	16.5	17.5	18.3	19.0	19.6	20.2	20.7	21.2	21.6	22.0	22.4	22.7	23.0
.72	.341	.960	.300	.295	.292	.288	.285	.283	.281	.279	.277	.275	.274	.272	.271	.270	.269	.268
			12.8	14.2	15.4	16.5	17.4	18.2	18.9	19.5	20.1	20.6	21.1	21.5	21.9	22.3	22.6	22.9
.74	.354	.966	.312	.307	.304	.300	.297	.294	.292	.290	.288	.286	.285	.283	.282	.281	.280	.279
			12.6	14.2	15.3	16.4	17.3	18.1	18.8	19.4	20.0	20.5	21.0	21.4	21.8	22.2	22.5	22.8
.76	.368	.971	.325	.320	.316	.312	.309	.306	.304	.302	.300	.298	.296	.295	.294	.292	.291	.290
			12.7	14.1	15.3	16.3	17.2	18.0	18.7	19.3	19.9	20.4	20.9	21.3	21.7	22.1	22.4	22.7
.78	.383	.975	.338	.333	.328	.325	.322	.319	.316	.314	.312	.310	.308	.307	.305	.304	.303	.302
			12.7	14.0	15.2	16.2	17.1	17.9	18.6	19.3	19.8	20.3	20.8	21.2	21.6	22.0	22.3	22.6

H/D=NORMALIZED DISPLACEMENT, C=LOCAL CRIMP, P/D=NORMALIZED SPACING
ALTERNATE ROWS OF TABLE - FIRST LINE=OVERALL CRIMP, SECOND LINE=COVER FACTOR

TABLE OF VALUES OF OVERALL WARP CRIMP AND FILLING COVER FACTOR
FOR MAXIMUM WEAVABLE FABRICS HAVING SPECIFIED WARP DISPLACEMENT
FILLING SPACING AND LOCAL WARP CRIMP

(3-HARNESS WEAVES)

			BETA															
H1/D	C1	P2/D	.5	.6	.7	.8	.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
.80	.398	.980	.351	.346	.341	.338	.334	.331	.329	.326	.324	.322	.321	.319	.318	.316	.315	.314
			12.6	14.0	15.2	16.2	17.1	17.9	18.6	19.2	19.8	20.3	20.7	21.2	21.6	21.9	22.3	22.6
.82	.413	.984	.364	.359	.355	.351	.347	.344	.342	.339	.337	.335	.333	.331	.330	.329	.327	.326
			12.6	13.9	15.1	16.1	17.0	17.8	18.5	19.1	19.7	20.2	20.7	21.1	21.5	21.9	22.2	22.5
.84	.429	.987	.378	.373	.368	.364	.361	.357	.355	.352	.350	.348	.346	.344	.343	.341	.340	.339
			12.5	13.9	15.1	16.1	17.0	17.7	18.5	19.1	19.6	20.2	20.6	21.0	21.4	21.8	22.1	22.4
.86	.445	.990	.393	.387	.382	.378	.374	.371	.368	.366	.363	.361	.359	.357	.356	.354	.353	.352
			12.5	13.8	15.0	16.0	16.9	17.7	18.4	19.0	19.6	20.1	20.6	21.0	21.4	21.7	22.1	22.4
.88	.461	.993	.407	.402	.397	.392	.388	.385	.382	.379	.377	.375	.373	.371	.369	.368	.366	.365
			12.5	13.8	15.0	16.0	16.9	17.7	18.4	19.0	19.6	20.1	20.5	20.9	21.3	21.7	22.0	22.3
.90	.478	.995	.422	.416	.411	.407	.403	.399	.396	.393	.391	.389	.387	.385	.383	.381	.380	.378
			12.4	13.8	15.0	16.0	16.8	17.6	18.3	19.0	19.5	20.0	20.5	20.9	21.3	21.7	22.0	22.3
.92	.496	.997	.438	.432	.426	.422	.418	.414	.411	.408	.405	.403	.401	.399	.397	.395	.394	.392
			12.4	13.8	14.9	15.9	16.8	17.6	18.3	18.9	19.5	20.0	20.5	20.9	21.3	21.6	22.0	22.3
.94	.513	.998	.454	.448	.442	.437	.433	.429	.426	.423	.420	.418	.415	.413	.412	.410	.408	.407
			12.4	13.7	14.9	15.9	16.8	17.6	18.3	18.9	19.5	20.0	20.4	20.9	21.2	21.6	21.9	22.2
.96	.532	.999	.470	.464	.458	.453	.449	.445	.441	.438	.435	.433	.431	.428	.427	.425	.423	.422
			12.4	13.7	14.9	15.9	16.8	17.6	18.3	18.9	19.4	20.0	20.4	20.8	21.2	21.6	21.9	22.2
.98	.551	1.000	.487	.480	.474	.469	.465	.461	.457	.454	.451	.448	.446	.444	.442	.440	.438	.437
			12.4	13.7	14.9	15.9	16.8	17.6	18.3	18.9	19.4	19.9	20.4	20.8	21.2	21.6	21.9	22.2
1.00	.571	1.000	.505	.498	.491	.486	.481	.477	.473	.470	.467	.464	.462	.460	.458	.456	.454	.452
			12.4	13.7	14.9	15.9	16.8	17.6	18.3	18.9	19.4	19.9	20.4	20.8	21.2	21.6	21.9	22.2

H/D=NORMALIZED DISPLACEMENT, C=LOCAL CRIMP, P/D=NORMALIZED SPACING
ALTERNATE ROWS OF TABLE - FIRST LINE=OVERALL CRIMP, SECOND LINE=COVER FACTOR

TABLE OF VALUES OF OVERALL WARP CRIMP AND FILLING COVER FACTOR
FOR MAXIMUM WEAVABLE FABRICS HAVING SPECIFIED WARP DISPLACEMENT
FILLING SPACING AND LOCAL WARP CRIMP

(4-HARNESS WEAVES)

			BETA														
H1/D	C1	P2/D	.5	.6	.7	.8	.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
.02	.007	.199	.003	.003	.003	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002
			40.6	42.6	44.2	45.5	46.5	47.4	48.1	48.7	49.3	49.8	50.2	50.6	50.9	51.2	51.5	51.7
.04	.014	.280	.007	.007	.006	.006	.006	.006	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005
			34.5	36.6	38.3	39.6	40.7	41.7	42.5	43.2	43.8	44.3	44.8	45.2	45.6	45.9	46.2	46.5
.06	.020	.341	.012	.011	.011	.010	.010	.010	.009	.009	.009	.009	.009	.008	.008	.008	.008	.008
			31.0	33.1	34.7	36.1	37.2	38.2	39.0	39.7	40.4	40.9	41.4	41.8	42.2	42.6	42.9	43.2
.08	.028	.392	.017	.016	.015	.015	.014	.014	.013	.013	.013	.013	.013	.012	.012	.012	.012	.012
			28.6	30.6	32.3	33.6	34.8	35.7	36.6	37.3	37.9	38.5	39.0	39.4	39.8	40.2	40.5	40.8
.10	.035	.436	.022	.021	.020	.019	.019	.018	.018	.018	.017	.017	.017	.016	.016	.016	.016	.016
			26.8	28.8	30.4	31.7	32.9	33.8	34.7	35.4	36.0	36.6	37.1	37.5	37.9	38.3	38.6	39.0
.12	.042	.475	.027	.026	.025	.024	.024	.023	.023	.022	.022	.021	.021	.021	.021	.020	.020	.020
			25.4	27.3	28.9	30.2	31.4	32.3	33.1	33.8	34.5	35.0	35.5	36.0	36.4	36.8	37.1	37.4
.14	.049	.510	.033	.031	.030	.029	.029	.028	.027	.027	.026	.026	.026	.025	.025	.025	.025	.024
			24.2	26.1	27.7	29.0	30.1	31.0	31.9	32.6	33.2	33.8	34.3	34.7	35.1	35.5	35.8	36.1
.16	.057	.543	.038	.037	.036	.035	.034	.033	.032	.032	.031	.031	.031	.030	.030	.030	.029	.029
			23.2	25.1	26.7	27.9	29.0	30.0	30.8	31.5	32.1	32.7	33.2	33.6	34.0	34.4	34.7	35.1
.18	.065	.572	.044	.043	.041	.040	.039	.038	.038	.037	.036	.036	.035	.035	.035	.034	.034	.034
			22.4	24.3	25.8	27.0	28.1	29.0	29.9	30.6	31.2	31.7	32.2	32.7	33.1	33.5	33.8	34.1
.20	.073	.600	.050	.049	.047	.046	.045	.044	.043	.042	.042	.041	.041	.040	.040	.039	.039	.039
			21.7	23.5	25.0	26.3	27.3	28.2	29.0	29.7	30.4	30.9	31.4	31.8	32.2	32.6	33.0	33.3
.22	.080	.626	.057	.055	.053	.052	.050	.049	.049	.048	.047	.046	.046	.045	.045	.045	.044	.044
			21.1	22.8	24.3	25.6	26.6	27.5	28.3	29.0	29.6	30.2	30.7	31.1	31.5	31.9	32.2	32.5
.24	.089	.650	.063	.061	.059	.058	.056	.055	.054	.053	.053	.052	.051	.051	.050	.050	.049	.049
			20.5	22.3	23.7	24.9	26.0	26.9	27.7	28.4	29.0	29.5	30.0	30.4	30.8	31.2	31.5	31.8
.26	.097	.673	.070	.067	.065	.064	.062	.061	.060	.059	.058	.058	.057	.056	.056	.055	.055	.054
			20.0	21.7	23.2	24.4	25.4	26.3	27.1	27.8	28.4	28.9	29.4	29.8	30.2	30.6	30.9	31.2

H/D=NORMALIZED DISPLACEMENT, C=LOCAL CRIMP, P/D=NORMALIZED SPACING
ALTERNATE ROWS OF TABLE - FIRST LINE=OVERALL CRIMP, SECOND LINE=COVER FACTOR

TABLE OF VALUES OF OVERALL WARP CRIMP AND FILLING COVER FACTOR
FOR MAXIMUM WEAVABLE FABRICS HAVING SPECIFIED WARP DISPLACEMENT
FILLING SPACING AND LOCAL WARP CRIMP

(4-HARNESS WEAVES)

H1/D	C1	P2/D	BETA .5	.6	.7	.8	.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
.28	.105	.694	.076	.074	.072	.070	.069	.067	.066	.065	.064	.063	.063	.062	.061	.061	.060	.060
			19.6	21.3	22.7	23.9	24.9	25.8	26.6	27.2	27.8	28.4	28.9	29.3	29.7	30.1	30.4	30.7
.30	.114	.714	.083	.081	.078	.076	.075	.073	.072	.071	.070	.069	.069	.068	.067	.067	.066	.066
			19.1	20.8	22.3	23.4	24.4	25.3	26.1	26.8	27.4	27.9	28.4	28.8	29.2	29.6	29.9	30.2
.32	.123	.733	.090	.087	.085	.083	.081	.080	.078	.077	.076	.075	.075	.074	.073	.073	.072	.071
			18.8	20.5	21.8	23.0	24.0	24.9	25.7	26.3	26.9	27.5	27.9	28.4	28.8	29.1	29.4	29.7
.34	.131	.751	.097	.094	.092	.090	.088	.086	.085	.084	.083	.082	.081	.080	.079	.079	.078	.077
			18.4	20.1	21.5	22.6	23.6	24.5	25.3	25.9	26.5	27.0	27.5	27.9	28.3	28.7	29.0	29.3
.36	.140	.768	.105	.102	.099	.097	.095	.093	.091	.090	.089	.088	.087	.086	.085	.085	.084	.084
			18.1	19.8	21.1	22.3	23.3	24.1	24.9	25.6	26.1	26.7	27.1	27.6	28.0	28.3	28.6	28.9
.38	.150	.785	.112	.109	.106	.104	.102	.100	.098	.097	.096	.095	.094	.093	.092	.091	.090	.090
			17.9	19.5	20.8	22.0	23.0	23.8	24.6	25.2	25.8	26.3	26.8	27.2	27.6	27.9	28.3	28.6
.40	.159	.800	.120	.116	.113	.111	.109	.107	.105	.104	.102	.101	.100	.099	.098	.098	.097	.096
			17.6	19.2	20.5	21.7	22.7	23.5	24.2	24.9	25.5	26.0	26.5	26.9	27.3	27.6	27.9	28.2
.42	.169	.815	.128	.124	.121	.118	.116	.114	.112	.111	.109	.108	.107	.106	.105	.104	.103	.103
			17.4	19.0	20.3	21.4	22.4	23.2	24.0	24.6	25.2	25.7	26.2	26.6	27.0	27.3	27.6	27.9
.44	.179	.828	.136	.132	.128	.126	.123	.121	.119	.118	.116	.115	.114	.113	.112	.111	.110	.109
			17.1	18.7	20.0	21.2	22.1	23.0	23.7	24.3	24.9	25.4	25.9	26.3	26.7	27.0	27.3	27.6
.46	.189	.842	.144	.140	.136	.133	.131	.129	.127	.125	.123	.122	.121	.120	.119	.118	.117	.116
			16.9	18.5	19.8	20.9	21.9	22.7	23.4	24.1	24.6	25.2	25.6	26.0	26.4	26.8	27.1	27.4
.48	.199	.854	.152	.148	.144	.141	.138	.136	.134	.132	.131	.129	.128	.127	.126	.125	.124	.123
			16.7	18.3	19.6	20.7	21.7	22.5	23.2	23.8	24.4	24.9	25.4	25.8	26.2	26.5	26.8	27.1
.50	.209	.866	.161	.156	.152	.149	.146	.144	.142	.140	.138	.137	.136	.134	.133	.132	.131	.130
			16.6	18.1	19.4	20.5	21.5	22.3	23.0	23.6	24.2	24.7	25.2	25.6	25.9	26.3	26.6	.9
.52	.220	.877	.169	.165	.161	.157	.154	.152	.150	.148	.146	.144	.143	.142	.141	.140	.139	.138
			16.4	17.9	19.2	20.3	21.3	22.1	22.8	23.4	24.0	24.5	24.9	25.4	25.7	26.1	26.4	26.7

H/D=NORMALIZED DISPLACEMENT, C=LOCAL CRIMP, P/D=NORMALIZED SPACING
ALTERNATE ROWS OF TABLE - FIRST LINE=OVERALL CRIMP, SECOND LINE=COVER FACTOR

TABLE OF VALUES OF OVERALL WARP CRIMP AND FILLING COVER FACTOR
FOR MAXIMUM WEAVABLE FABRICS HAVING SPECIFIED WARP DISPLACEMENT
FILLING SPACING AND LOCAL WARP CRIMP

(4-HARNESS WEAVES)

			BETA														
H1/D	C1	P2/D	.5	.6	.7	.8	.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
.54	.231	.888	.178	.173	.169	.166	.163	.160	.158	.156	.154	.152	.151	.149	.148	.147	.146	.145
			16.3	17.8	19.1	20.1	21.1	21.9	22.6	23.2	23.8	24.3	24.7	25.2	25.5	25.9	26.2	26.5
.56	.242	.898	.187	.182	.178	.174	.171	.168	.166	.164	.162	.160	.159	.157	.156	.155	.154	.153
			16.1	17.6	18.9	20.0	20.9	21.7	22.4	23.1	23.6	24.1	24.6	25.0	25.3	25.7	26.0	26.3
.58	.253	.908	.197	.191	.187	.183	.180	.177	.174	.172	.170	.168	.167	.165	.164	.163	.162	.161
			16.0	17.5	18.8	19.8	20.8	21.6	22.3	22.9	23.4	23.9	24.4	24.8	25.2	25.5	25.8	26.1
.60	.265	.917	.206	.200	.196	.192	.188	.185	.183	.181	.178	.177	.175	.173	.172	.171	.170	.169
			15.9	17.4	18.6	19.7	20.6	21.4	22.1	22.7	23.3	23.8	24.2	24.6	25.0	25.4	25.7	26.0
.62	.277	.925	.216	.210	.205	.201	.197	.194	.192	.189	.187	.185	.183	.18	.180	.179	.178	.177
			15.7	17.2	18.5	19.6	20.5	21.3	22.0	22.6	23.1	23.6	24.1	24	24.9	25.2	25.5	25.8
.64	.289	.933	.226	.220	.215	.210	.207	.203	.201	.198	.196	.194	.192	.190	.189	.188	.186	.185
			15.6	17.1	18.4	19.4	20.4	21.1	21.8	22.5	23.0	23.5	24.0	24.4	24.7	25.1	25.4	25.7
.66	.301	.940	.236	.230	.224	.220	.216	.213	.210	.207	.205	.203	.201	.199	.198	.196	.195	.194
			15.5	17.0	18.3	19.3	20.2	21.0	21.7	22.3	22.9	23.4	23.8	24.2	24.6	24.9	25.2	25.5
.68	.314	.947	.246	.240	.234	.230	.226	.222	.219	.216	.214	.212	.210	.208	.206	.205	.204	.202
			15.5	16.9	18.2	19.2	20.1	20.9	21.6	22.2	22.8	23.3	23.7	24.1	24.5	24.8	25.1	25.4
.70	.327	.954	.257	.250	.244	.240	.235	.232	.229	.226	.223	.221	.219	.217	.216	.214	.213	.211
			15.4	16.8	18.1	19.1	20.0	20.8	21.5	22.1	22.7	23.2	23.6	24.0	24.4	24.7	25.0	25.3
.72	.341	.960	.268	.261	.255	.250	.246	.242	.238	.236	.233	.231	.229	.227	.225	.223	.222	.220
			15.3	16.8	18.0	19.0	19.9	20.7	21.4	22.0	22.6	23.1	23.5	23.9	24.3	24.6	24.9	25.2
.74	.354	.966	.279	.272	.265	.260	.256	.252	.249	.245	.243	.240	.238	.236	.234	.233	.231	.230
			15.2	16.7	17.9	19.0	19.9	20.6	21.3	21.9	22.5	23.0	23.4	23.8	24.2	24.5	24.8	25.1
.76	.368	.971	.290	.283	.276	.271	.266	.262	.259	.256	.253	.250	.248	.246	.244	.242	.241	.239
			15.2	16.6	17.8	18.9	19.8	20.6	21.2	21.9	22.4	22.9	23.3	23.7	24.1	24.4	24.7	25.0
.78	.383	.975	.302	.294	.288	.282	.277	.273	.269	.266	.263	.261	.258	.256	.254	.252	.251	.249
			15.1	16.6	17.8	18.8	19.7	20.5	21.2	21.8	22.3	22.8	23.3	23.6	24.0	24.3	24.7	24.9

H/D=NORMALIZED DISPLACEMENT, C=LOCAL CRIMP, P/D=NORMALIZED SPACING
ALTERNATE ROWS OF TABLE - FIRST LINE=OVERALL CRIMP, SECOND LINE=COVER FACTOR

TABLE OF VALUES OF OVERALL WARP CRIMP AND FILLING COVER FACTOR
FOR MAXIMUM WEAVABLE FABRICS HAVING SPECIFIED WARP DISPLACEMENT
FILLING SPACING AND LOCAL WARP CRIMP

(4-HARNESS WEAVES)

			BETA														
H1/D	C1	P2/D	.5	.6	.7	.8	.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
.80	.398	.980	.314	.306	.299	.293	.288	.284	.280	.277	.274	.271	.269	.266	.264	.262	.261	.259
			15.1	16.5	17.7	18.8	19.6	20.4	21.1	21.7	22.3	22.7	23.2	23.6	23.9	24.3	24.6	24.9
.82	.413	.984	.326	.318	.311	.305	.300	.295	.291	.288	.285	.282	.279	.277	.275	.273	.271	.270
			15.0	16.4	17.7	18.7	19.6	20.4	21.1	21.7	22.2	22.7	23.1	23.5	23.9	24.2	24.5	24.8
.84	.429	.987	.339	.330	.323	.317	.311	.307	.303	.299	.296	.293	.290	.288	.286	.284	.282	.280
			15.0	16.4	17.6	18.6	19.5	20.3	21.0	21.6	22.1	22.6	23.1	23.5	23.8	24.2	24.5	24.7
.86	.445	.990	.352	.343	.335	.329	.323	.318	.314	.310	.307	.304	.301	.299	.297	.294	.293	.291
			14.9	16.4	17.6	18.6	19.5	20.3	21.0	21.6	22.1	22.6	23.0	23.4	23.8	24.1	24.4	24.7
.88	.461	.993	.365	.356	.348	.341	.335	.330	.326	.322	.319	.316	.313	.310	.308	.306	.304	.302
			14.9	16.3	17.5	18.6	19.5	20.2	20.9	21.5	22.1	22.5	23.0	23.4	23.7	24.1	24.4	24.6
.90	.478	.995	.378	.369	.361	.354	.348	.343	.338	.334	.331	.327	.324	.322	.319	.317	.315	.313
			14.9	16.3	17.5	18.5	19.4	20.2	20.9	21.5	22.0	22.5	22.9	23.3	23.7	24.0	24.3	24.6
.92	.496	.997	.392	.383	.374	.367	.361	.356	.351	.347	.343	.340	.337	.334	.331	.329	.327	.325
			14.8	16.3	17.5	18.5	19.4	20.2	20.9	21.5	22.0	22.5	22.9	23.3	23.7	24.0	24.3	24.6
.94	.513	.998	.407	.397	.388	.380	.374	.369	.364	.359	.355	.352	.349	.346	.343	.341	.339	.337
			14.8	16.3	17.5	18.5	19.4	20.2	20.8	21.4	22.0	22.5	22.9	23.3	23.6	24.0	24.3	24.6
.96	.532	.999	.422	.411	.402	.394	.388	.382	.377	.372	.368	.365	.362	.359	.356	.353	.351	.349
			14.8	16.3	17.5	18.5	19.4	20.1	20.8	21.4	22.0	22.4	22.9	23.3	23.6	24.0	24.3	24.5
.98	.551	1.000	.437	.426	.416	.409	.402	.396	.391	.386	.382	.378	.375	.372	.369	.366	.364	.362
			14.8	16.2	17.4	18.5	19.4	20.1	20.8	21.4	21.9	22.4	22.9	23.3	23.6	24.0	24.3	24.5
1.00	.571	1.000	.452	.441	.431	.423	.416	.410	.404	.400	.395	.392	.388	.385	.382	.379	.377	.375
			14.8	16.2	17.4	18.5	19.4	20.1	20.8	21.4	21.9	22.4	22.9	23.3	23.6	23.9	24.3	24.5

H/D=NORMALIZED DISPLACEMENT, C=LOCAL CRIMP, P/D=NORMALIZED SPACING
ALTERNATE ROWS OF TABLE - FIRST LINE=OVERALL CRIMP, SECOND LINE=COVER FACTOR

TABLE OF VALUES OF OVERALL WARP CRIMP AND FILLING COVER FACTOR
FOR MAXIMUM WEAVABLE FABRICS HAVING SPECIFIED WARP DISPLACEMENT
FILLING SPACING AND LOCAL WARP CRIMP

(5-HARNESS WEAVES)

H1/D	C1	P2/D	BETA .5	.6	.7	.8	.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
.02	.007	.199	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.001	.001	.001	.001	.001	.001
			39.5	41.1	42.2	43.2	43.9	44.5	45.1	45.5	45.9	46.2	46.5	46.8	47.0	47.2	47.4	47.5
.04	.014	.280	.006	.005	.005	.005	.005	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004
			34.8	36.4	37.8	38.8	39.7	40.4	41.0	41.5	41.9	42.3	42.7	43.0	43.2	43.5	43.7	43.9
.06	.020	.341	.010	.009	.008	.008	.008	.008	.007	.007	.007	.007	.007	.007	.006	.006	.006	.006
			31.9	33.6	35.0	36.1	37.0	37.7	38.4	38.9	39.4	39.8	40.2	40.5	40.8	41.1	41.3	41.5
.08	.028	.392	.014	.013	.012	.012	.011	.011	.011	.010	.010	.010	.010	.010	.010	.009	.009	.009
			29.8	31.5	32.9	34.1	35.0	35.8	36.4	37.0	37.5	37.9	38.3	38.7	39.0	39.2	39.5	39.7
.10	.035	.436	.017	.016	.016	.015	.015	.014	.014	.014	.013	.013	.013	.013	.013	.013	.013	.012
			28.2	30.0	31.4	32.5	33.4	34.2	34.9	35.5	36.0	36.4	36.8	37.2	37.5	37.8	38.1	38.3
.12	.042	.475	.023	.022	.021	.020	.019	.019	.018	.018	.018	.017	.017	.017	.016	.016	.016	.016
			26.9	28.7	30.1	31.2	32.2	33.0	33.6	34.2	34.8	35.2	35.6	36.0	36.3	36.6	36.9	37.1
.14	.049	.510	.028	.027	.025	.024	.024	.023	.022	.022	.021	.021	.021	.020	.020	.020	.020	.019
			25.9	27.6	29.0	30.1	31.1	31.9	32.6	33.2	33.7	34.2	34.6	34.9	35.3	35.6	35.8	36.1
.16	.057	.543	.033	.031	.030	.029	.028	.027	.027	.026	.026	.025	.025	.024	.024	.024	.024	.023
			25.0	26.7	28.1	29.2	30.2	31.0	31.7	32.3	32.8	33.3	33.7	34.1	34.4	34.7	35.0	35.2
.18	.065	.572	.038	.037	.035	.034	.033	.032	.031	.030	.030	.029	.029	.029	.028	.028	.028	.027
			24.2	25.9	27.3	28.4	29.4	30.2	30.9	31.5	32.0	32.5	32.9	33.3	33.6	33.9	34.2	34.4
.20	.073	.600	.044	.042	.040	.039	.038	.037	.036	.035	.034	.034	.033	.033	.032	.032	.032	.031
			23.5	25.2	26.6	27.7	28.7	29.5	30.2	30.8	31.3	31.8	32.2	32.6	32.9	33.2	33.5	33.8
.22	.080	.626	.049	.047	.045	.044	.043	.041	.041	.040	.039	.038	.038	.037	.037	.036	.036	.036
			22.9	24.6	26.0	27.1	28.1	28.9	29.6	30.2	30.7	31.2	31.6	32.0	32.3	32.6	32.9	33.1
.24	.089	.650	.055	.053	.051	.049	.048	.046	.045	.045	.044	.043	.042	.042	.041	.041	.040	.040
			22.4	24.1	25.4	26.6	27.5	28.3	29.0	29.6	30.1	30.6	31.0	31.4	31.7	32.0	32.3	32.6
.26	.097	.673	.061	.058	.056	.054	.053	.052	.051	.050	.049	.048	.047	.047	.046	.046	.045	.045
			21.9	23.6	24.9	26.0	27.0	27.8	28.5	29.1	29.6	30.1	30.5	30.9	31.2	31.5	31.8	32.1

H/D=NORMALIZED DISPLACEMENT, C=LOCAL CRIMP, P/D=NORMALIZED SPACING
ALTERNATE ROWS OF TABLE - FIRST LINE=OVERALL CRIMP, SECOND LINE=COVER FACTOR

TABLE OF VALUES OF OVERALL WARP CRIMP AND FILLING COVER FACTOR
FOR MAXIMUM WEAVABLE FABRICS HAVING SPECIFIED WARP DISPLACEMENT
FILLING SPACING AND LOCAL WARP CRIMP

(5-HARNESS WEAVES)

			BETA														
H1/D	C1	P2/D	.5	.6	.7	.8	.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
.28	.105	.694	.067	.064	.062	.060	.058	.057	.056	.055	.054	.053	.052	.051	.051	.050	.050	.049
			21.5	23.1	24.5	25.6	26.5	27.3	28.0	28.6	29.1	29.6	30.0	30.4	30.8	31.1	31.3	31.6
.30	.114	.714	.073	.070	.068	.066	.064	.062	.061	.060	.059	.058	.057	.056	.056	.055	.055	.054
			21.1	22.7	24.1	25.2	26.1	26.9	27.6	28.2	28.7	29.2	29.6	30.0	30.3	30.6	30.9	31.2
.32	.123	.733	.080	.076	.074	.071	.070	.068	.067	.065	.064	.063	.062	.062	.061	.060	.060	.059
			20.7	22.4	23.7	24.8	25.7	26.5	27.2	27.8	28.3	28.8	29.2	29.6	29.9	30.2	30.5	30.8
.34	.131	.751	.086	.083	.080	.077	.075	.074	.072	.071	.070	.069	.068	.067	.066	.065	.065	.064
			20.4	22.0	23.3	24.4	25.4	26.2	26.8	27.4	28.0	28.4	28.9	29.2	29.6	29.9	30.2	30.4
.36	.140	.768	.093	.089	.086	.084	.081	.080	.078	.077	.075	.074	.073	.072	.071	.071	.070	.069
			20.1	21.7	23.0	24.1	25.0	25.8	26.5	27.1	27.6	28.1	28.5	28.9	29.2	29.5	29.8	30.1
.38	.150	.785	.100	.096	.093	.090	.087	.086	.084	.082	.081	.080	.079	.078	.077	.076	.075	.075
			19.8	21	22.7	23.8	24.7	25.5	26.2	26.8	27.3	27.8	28.2	28.6	28.9	29.2	29.5	29.8
.40	.159	.800	.107	.103	.099	.096	.094	.092	.090	.088	.087	.086	.084	.083	.083	.082	.081	.080
			19.6	21.2	22.5	23.5	24.5	25.2	25.9	26.5	27.0	27.5	27.9	28.3	28.6	28.9	29.2	29.5
.42	.169	.815	.114	.109	.106	.103	.100	.098	.096	.094	.093	.092	.090	.089	.088	.087	.087	.086
			19.3	20.9	22.2	23.3	24.2	25.0	25.6	26.2	26.8	27.2	27.7	28.0	28.4	28.7	29.0	29.2
.44	.179	.828	.121	.116	.113	.109	.107	.104	.102	.101	.099	.098	.096	.095	.094	.093	.092	.092
			19.1	20.7	22.0	23.0	23.9	24.7	25.4	26.0	26.5	27.0	27.4	27.8	28.1	28.4	28.7	29.0
.46	.189	.842	.129	.124	.120	.116	.113	.111	.109	.107	.105	.104	.103	.101	.100	.099	.098	.098
			18.9	20.5	21.8	22.8	23.7	24.5	25.2	25.8	26.3	26.8	27.2	27.5	27.9	28.2	28.5	28.7
.48	.199	.854	.136	.131	.127	.123	.120	.118	.115	.113	.112	.110	.109	.108	.106	.105	.104	.104
			18.7	20.3	21.5	22.6	23.5	24.3	25.0	25.5	26.1	26.5	26.9	27.3	27.7	28.0	28.3	28.5
.50	.209	.866	.144	.139	.134	.130	.127	.125	.122	.120	.118	.117	.115	.114	.113	.112	.111	.110
			18.6	20.1	21.4	22.4	23.3	24.1	24.8	25.3	25.9	26.3	26.7	27.1	27.5	27.8	28.0	28.3
.52	.220	.877	.152	.146	.142	.138	.134	.132	.129	.127	.125	.123	.122	.120	.119	.118	.117	.116
			18.4	19.9	21.2	22.2	23.1	23.9	24.6	25.2	25.7	26.1	26.6	26.9	27.3	27.6	27.9	28.1

H/D=NORMALIZED DISPLACEMENT, C=LOCAL CRIMP, P/D=NORMALIZED SPACING
ALTERNATE ROWS OF TABLE - FIRST LINE=OVERALL CRIMP, SECOND LINE=COVER FACTOR

TABLE OF VALUES OF OVERALL WARP CRIMP AND FILLING COVER FACTOR
FOR MAXIMUM WEAVABLE FABRICS HAVING SPECIFIED WARP DISPLACEMENT
FILLING SPACING AND LOCAL WARP CRIMP

(5-HARNESS WEAVES)

H1/D	C1	P2/D	BETA .5	.6	.7	.8	.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
.54	.231	.888	.160	.154	.149	.145	.142	.139	.136	.134	.132	.130	.128	.127	.126	.125	.123	.122
			18.2	19.8	21.0	22.1	23.0	23.7	24.4	25.0	25.5	26.0	26.4	26.8	27.1	27.4	27.7	27.9
.56	.242	.898	.168	.162	.157	.153	.149	.146	.143	.141	.139	.137	.135	.134	.132	.131	.130	.129
			18.1	19.6	20.9	21.9	22.8	23.6	24.2	24.8	25.3	25.8	26.2	26.6	26.9	27.2	27.5	27.8
.58	.253	.908	.177	.170	.165	.161	.157	.154	.151	.148	.146	.144	.142	.141	.139	.138	.137	.136
			18.0	19.5	20.7	21.8	22.7	23.4	24.1	24.7	25.2	25.6	26.1	26.4	26.8	27.1	27.4	27.6
.60	.265	.917	.185	.179	.173	.169	.165	.161	.158	.156	.153	.151	.150	.148	.146	.145	.144	.143
			17.8	19.3	20.6	21.6	22.5	23.3	23.9	24.5	25.0	25.5	25.9	26.3	26.6	26.9	27.2	27.5
.62	.277	.925	.194	.187	.182	.177	.173	.169	.166	.163	.161	.159	.157	.155	.154	.152	.151	.150
			17.7	19.2	20.5	21.5	22.4	23.1	23.8	24.4	24.9	25.4	25.8	26.1	26.5	26.8	27.1	27.3
.64	.289	.933	.203	.196	.190	.185	.181	.177	.174	.171	.169	.166	.164	.163	.161	.160	.158	.157
			17.6	19.1	20.4	21.4	22.3	23.0	23.7	24.3	24.8	25.2	25.7	26.0	26.4	26.7	26.9	27.2
.66	.301	.940	.213	.205	.199	.194	.189	.185	.182	.179	.177	.174	.172	.170	.169	.167	.166	.164
			17.5	19.0	20.2	21.3	22.2	22.9	23.6	24.2	24.7	25.1	25.5	25.9	26.2	26.5	26.8	27.1
.68	.314	.947	.222	.214	.208	.202	.198	.194	.190	.187	.185	.182	.180	.178	.176	.175	.173	.172
			17.4	18.9	20.1	21.2	22.1	22.8	23.5	24.0	24.6	25.0	25.4	25.8	26.1	26.4	26.7	27.0
.70	.327	.954	.232	.224	.217	.211	.206	.202	.199	.196	.193	.190	.188	.186	.184	.182	.181	.180
			17.3	18.8	20.1	21.1	22.0	22.7	23.4	23.9	24.5	24.9	25.3	25.7	26.0	26.3	26.6	26.9
.72	.341	.960	.242	.233	.226	.220	.215	.211	.207	.204	.201	.199	.196	.194	.192	.190	.189	.187
			17.3	18.7	20.0	21.0	21.9	22.6	23.3	23.9	24.4	24.8	25.2	25.6	25.9	26.2	26.5	26.8
.74	.354	.966	.252	.243	.236	.230	.225	.220	.216	.213	.210	.207	.205	.202	.200	.199	.197	.195
			17.2	18.7	19.9	20.9	21.8	22.5	23.2	23.8	24.3	24.7	25.2	25.5	25.9	26.2	26.4	26.7
.76	.368	.971	.262	.253	.246	.239	.234	.229	.225	.222	.219	.216	.213	.211	.209	.207	.205	.204
			17.1	18.6	19.8	20.8	21.7	22.5	23.1	23.7	24.2	24.7	25.1	25.4	25.8	26.1	26.4	26.6
.78	.383	.975	.273	.264	.256	.249	.244	.239	.235	.231	.228	.225	.222	.220	.218	.216	.214	.212
			17.1	18.5	19.8	20.8	21.6	22.4	23.1	23.6	24.1	24.6	25.0	25.4	25.7	26.0	26.3	26.5

H/D=NORMALIZED DISPLACEMENT, C=LOCAL CRIMP, P/D=NORMALIZED SPACING
ALTERNATE ROWS OF TABLE - FIRST LINE=OVERALL CRIMP, SECOND LINE=COVER FACTOR

TABLE OF VALUES OF OVERALL WARP CRIMP AND FILLING COVER FACTOR
FOR MAXIMUM WEAVABLE FABRICS HAVING SPECIFIED WARP DISPLACEMENT
FILLING SPACING AND LOCAL WARP CRIMP

(5-HARNESS WEAVES)

			BETA														
H1/D	C1	P2/D	.5	.6	.7	.8	.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
.80	.398	.980	.284	.274	.266	.259	.253	.248	.244	.240	.237	.234	.231	.229	.226	.224	.222	.221
			17.0	18.5	19.7	20.7	21.6	22.3	23.0	23.6	24.1	24.5	24.9	25.3	25.6	25.9	26.2	26.5
.82	.413	.984	.295	.285	.277	.270	.263	.258	.254	.250	.246	.243	.240	.238	.235	.233	.231	.230
			17.0	18.4	19.6	20.7	21.5	22.3	22.9	23.5	24.0	24.5	24.9	25.2	25.6	25.9	26.2	26.4
.84	.429	.987	.307	.296	.287	.280	.274	.268	.264	.260	.256	.253	.250	.247	.245	.243	.241	.239
			16.9	18.4	19.6	20.6	21.5	22.2	22.9	23.5	24.0	24.4	24.8	25.2	25.5	25.8	26.1	26.4
.86	.445	.990	.318	.307	.298	.291	.284	.279	.274	.270	.266	.262	.259	.257	.254	.252	.250	.248
			16.9	18.4	19.6	20.6	21.4	22.2	22.8	23.4	23.9	24.4	24.8	25.2	25.5	25.8	26.1	26.3
.88	.461	.993	.330	.319	.310	.302	.295	.289	.284	.280	.276	.273	.269	.267	.264	.262	.259	.257
			16.9	18.3	19.5	20.5	21.4	22.2	22.8	23.4	23.9	24.3	24.7	25.1	25.4	25.8	26.0	26.3
.90	.478	.995	.343	.331	.321	.313	.306	.300	.295	.291	.286	.283	.280	.277	.274	.271	.269	.267
			16.8	18.3	19.5	20.5	21.4	22.1	22.8	23.3	23.9	24.3	24.7	25.1	25.4	25.7	26.0	26.3
.92	.496	.997	.356	.343	.333	.325	.318	.312	.306	.301	.297	.293	.290	.287	.284	.282	.279	.277
			16.8	18.3	19.5	20.5	21.4	22.1	22.8	23.3	23.8	24.3	24.7	25.1	25.4	25.7	26.0	26.2
.94	.513	.998	.369	.356	.346	.337	.329	.323	.317	.312	.308	.304	.301	.298	.295	.292	.290	.287
			16.8	18.2	19.5	20.5	21.3	22.1	22.7	23.3	23.8	24.3	24.7	25.0	25.4	25.7	26.0	26.2
.96	.532	.999	.382	.369	.358	.349	.341	.335	.329	.324	.319	.315	.312	.308	.305	.303	.300	.298
			16.8	18.2	19.4	20.5	21.3	22.1	22.7	23.3	23.8	24.2	24.7	25.0	25.4	25.7	25.9	26.2
.98	.551	1.000	.396	.382	.371	.362	.354	.347	.341	.336	.331	.327	.323	.320	.316	.314	.311	.309
			16.8	18.2	19.4	20.4	21.3	22.1	22.7	23.3	23.8	24.2	24.6	25.0	25.3	25.6	25.9	26.2
1.00	.571	1.000	.410	.396	.384	.375	.366	.359	.353	.348	.343	.338	.334	.331	.328	.325	.322	.320
			16.8	18.2	19.4	20.4	21.3	22.1	22.7	23.3	23.8	24.2	24.6	25.0	25.3	25.6	25.9	26.2

H/D=NORMALIZED DISPLACEMENT, C=LOCAL CRIMP, P/D=NORMALIZED SPACING
ALTERNATE ROWS OF TABLE - FIRST LINE=OVERALL CRIMP, SECOND LINE=COVER FACTOR